Attachment H

Proposal # 2001- E-21 (Office Use Only)

PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: Feasibility Study of the Ecosystem and Water Quality Benefits Associated with Restoration of Franks Tract, Big Break, and Lower Sherman Lake

Applicant Name: California Department of Water Resources

Contact Name: Curt Schmutte

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Amount of funding requested: $ 1,218,105.00

Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.

State cost _____ Federal cost _____

Cost share partners? ✓ Yes No

Identify partners and amount contributed by each. Delta Science Center has allocated $100,000 from other grants (Coastal Conservancy, Switzer Foundation, San Francisco Bay Fund) to the Study.

Indicate the Topic for which you are applying (check only one box).

- ☐ Natural Flow Regimes
- ☐ Nonnative Invasive Species
- ☐ Channel Dynamics/Sediment Transport
- ☐ Flood Management
- ■ Shallow Water Tidal/Marsh Habitat
- ☐ Contaminants
- ☐ Beyond the Riparian Corridor
- ☐ Local Watershed Stewardship
- ☐ Environmental Education
- ☐ Special Status Species Surveys and Studies
- ☐ Fishery Monitoring, Assessment & Research
- ☐ Fish Screens

What county or counties is the project located in? Sacramento and Contra Costa Counties

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible Delta, Central and West (1.4)

Indicate the type of applicant (check only one box):

- ■ State agency
- ☐ Public/Non-profit joint venture
- ☐ Local government/district
- ☐ University
- ☐ Other: _____
- ☐ Federal agency
- ☐ Non-profit
- ☐ Tribes
- ☐ Private party

Indicate the primary species which the proposal addresses (check all that apply):

- ■ San Joaquin and East-side Delta tributaries fall-run Chinook salmon
- ■ Winter-run Chinook salmon
- ■ Late-fall run Chinook salmon
- ■ Delta smelt
- ■ Splittail
- ■ Green sturgeon
- □ White sturgeon
- ■ Waterfowl and Shorebirds
- ■ Migratory birds
- □ Other listed T/E species: _____
- ■ Spring-run Chinook salmon
- ■ Fall-run Chinook salmon
- ■ Longfin smelt
- ■ Steelhead trout
- ■ Striped bass
- ■ All Chinook species
- ■ All anadromous salmonids
- □ American shad

Indicate the type of project (check only one box):

- ■ Research/Monitoring
- □ Pilot/Demo Project
- 17 Full-scale Implementation
- □ Watershed Planning
- □ Education

Is this a next-phase of an ongoing project? Yes No ✓

Have you received funding from CALFED before? Yes _____ No ✓

If yes, list project title and CALFED number

Have you received funding from CVPIA before? $ _____ No ✓

If yes, list CVPIA program providing funding, project title and CVPIA number (ifapplicable):

By signing below, the applicant declares the following:

- The truthfulness of all representation in their proposal'
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives and all rights to privacy and confidentiality of the proposed on behalf of the applicant, to the extent as provided in the Section.

Curt Schmutte

Printed name of applicant

Curt Schmutte

Signature of applicant

B. EXECUTIVE SUMMARY

Title:	Feasibility Study of the Ecosystem and Water Quality Benefits Associated with Restoration of Franks Tract, Big Break, and Lower Sherman Lake
Amount Requested	$1,218,105.00
Applicant:	Califomia Department of Water Resources (Curt Schmutte) 3251 *S* Street Sacramento, CA 95816 916/227-7567 telephone 916/227-7600 fax schmutte@water.ca.gov
Participants **And** Collaborators:	Co-sponsors: Department of Parks and Recreation, Department of Fish and Game, East Bay Regional Park District, Delta Science Center. Subcontractors: EDAW, Moffatt & Nichol, Natural Heritage Institute, Resource Management Associates, Hanson Environmental Inc., Swanson Hydrology and Geomorphology

Study Location. Objective and Approach. The feasibility study will evaluate the potential to create ecosystem, water quality/supply, recreational, and other benefits at Lower Sherman Lake, Big Break, and Franks Tract, by modifying remnant levees to inhibit salt trapping and restoring tidal marsh habitat. Approaches involve restoring natural landforms and channels to restrict salt trapping and mixing while retaining tidal influence and recreational access to the flooded island interiors. The study will investigate how restoration of tidal marsh with dendritic channels and tidal flows can increase habitat values for fish and wildlife, including protected species, and inhibit invasive plants, such as Brazilian waterweed. Field and secondary data research and modeling of Delta hydrology and constituent transport will be included. Various site concepts will be evaluated individually and in combination for their ability to meet performance objectives. An Integration Team of the co-sponsors and agencies will provide study guidance and feedback, with input from a Science Advisory Group and the public. This study has enormous implications for Delta management, because flooded island restoration could simultaneously enhance Delta ecosystem values and achieve concurrent benefits for water quality, water supply, recreation, invasive species control and flood control.

Hypothesis. Uncertainties. and Outcome. Flooded Delta islands with wide levee breaches contain open water habitat that possesses diminished ecosystem value and characteristics harmful to water quality (i.e., salt trapping), compared to a more diverse marsh. The hypothesis tested in this study is that natural landforms can be restored to control flooded island hydrology and rehabilitate interior habitat to contain more complex tidal marsh, which together can create multi-faceted benefits. Preliminary DSMl and DSM2 model runs indicate the potential to reduce salinity in the south Delta areas by 10-35 percent. The uncertainties of this concept relate to availability of suitable and economical fill material sources, potential local mercury cycling, ability to achieve naturally functioning tidal marsh within the flooded islands, and the confirmation of potential water quality improvements. The outcome of the study would be a description of feasible approaches to achieve ecosystem benefits and the definition of a pilot program or programs.

Applicability to ERP Goals. The study supports the achievement of Goals 1, 2, 4, and 5. Rehabilitation of the flooded islands provides an important opportunity to establish habitat for at-risk fish species, consistent with Goal 1 (At-Risk Species) and more complex, self-sustaining, natural processes, as sought in Goal 2 (Ecosystem Processes and Biotic Communities). Restoring functional tidal mash habitat in flooded islands is consistent with Goal 4 (Habitats). Replacing areas of shallow open water with marsh channels subject to tidal flow can reduce the success of invasive plants, consistent with Goal 5 (Non-native, Invasive Species).

C. PROJECTDESCRIPTION

1. STATEMENT OF THE PROBLEM

a. Problem. With subsidence of Sacramento/San Joaquin Delta islands and erosion of levees over time, several islands have been flooded, creating lakes. The flooded islands are dominated by open water habitats with more limited ecological value than historic tidal marsh, and potentially, some environmentally damaging characteristics (Grimaldo et al. 1998; Grimaldo et al. 2000, Simenstad et al. 1999). Erosion from wind-driven waves and boat wakes is continuing to reduce remnants of tidal marsh in some of these lakes and threatening the levees of adjacent islands (Swanson et al. 1999). The lakes provide habitat for non-native fish and may aid in the spread of invasive non-native aquatic plants, such as Brazilian waterweed (Cohen and Carlton 1995; Grimaldo and Hymanson 1999). They also appear to contribute to increased salinity in the some areas of the Delta by trapping and mixing salt, which decreases the quality of water diverted for the State's water supply at the Department of Water Resources (DWR 2000) and U.S. Bureau of Reclamation (Reclamation) pumps (ibid).

Previous efforts to diversify habitats in Delta lakes have been rare and have focused on filling shallow water areas with dredged material to create islands, as was done on Donlon Island and Venice Cut. The dredged material "pancake" method was developed at a time when material disposal was a key goal (USACE Sacramento District, 1991). Other restoration methods need to be explored which reestablish the historic Delta dendritic channels.

Recently, DWR, CALFED and others have studied the concept of breaching levees and returning tidal conditions to diked areas around Suisun Bay with the objective of improving ecological values of the diked areas as part of the Suisun Marsh Preservation Agreement (DWR 1998; Simenstad et al. 1999). Hydrological modeling conducted for the CALFED Suisun Marsh sub-team has demonstrated the potential to decrease salinity elsewhere in the Delta (Enright 1998). Combining strategically located levee openings with innovative tidal marsh habitat restoration methods may be a promising approach for concurrently improving ecological values, beneficially managing Delta water quality, and enhancing recreation and other social values of the flooded islands. Based on this problem discussion, the objectives of the proposed study are as follows:

- Evaluate the **feasibility** of habitat diversification approaches for Lower Sherman Lake, Big Break, and Franks Tract with the objectives of restoring ecosystem values, improving water quality conditions for water supply, and enhancing recreation and other social values of the flooded islands.
- Develop and evaluate innovative and cost-effective Delta tidal marsh restoration concepts that re-create the dendritic channels and provide ecological benefits for native plants, fish, and wildlife, and impede the success of invasive, non-native fish and aquatic plants
- Evaluate restoration of shoreline levees with Strategically located openings to beneficially alter the salt-trapping and mixing characteristics of the three flooded islands while retaining tidal flow to the island interiors.
- Achieve concurrent resource benefits for the three flooded islands, including recreation, aesthetics, and flood control.

b. Conceotual Models. To address the objectives cited above, DWR, in association with the California Department of Fish and Game (DFG), California Department of Parks and Recreation (DPR), East Bay Regional Park District (EBRPD), and Delta Science Center (DSC), has

developed a feasibility study proposal involving Lower Sherman Lake, Big Break, and Franks Tract *(Exhibit 1).*

A simplified conceptual model of the physical conditions to be studied is provided in *Exbibit* 2. The generalized concept for physical actions investigated in the feasibility study involves closing the existing, wide breaches into the three flooded islands, while retaining strategically placed tidal openings, combined with restoring areas of complex tidal marsh containing small, intertidal and subtidal channels and sloughs. Up to three restoration concepts will be investigated at each flooded island site.

A model of the study team relationships between CALFED, the Integration Team of feasibility study, a Science Advisory Group, public outreach, and technical investigators is shown in *Exbibit 3.* The relationship model is intended to facilitate an interdisciplinary investigation that provides technical information to the decision-makers for the study, i.e., the Integration Team. With input from the public outreach program and an expert scientific panel, called the Science Advisory Group. The Integration Team directs the overall study, interprets input and technical information, and approves the feasibility findings and report.

The feasibility investigation follows a proven resource planning model with components for baseline definition, development of objectives, identification of alternatives, evaluation of alternatives against the objectives, iterative reviews of information and results, public and agency input at milestones, refinement of alternatives, explanation of conclusions, and definition of **a** preferred project(s) with next actions. In this case, the preferred project(s) would be pilot projects to implement, monitor, adaptively manage, and evaluate against the program's objectives (and criteria consistent with the objectives) before a decision is made about full-scale implementation. Neither the pilot projects nor full-scale implementation is included in this funding application, but would need next-phase funding as a later application.

c. Hypotheses Being Tested. The primary hypothesis being tested is whether a combination of (1) altering the hydrology of flooded islands by strategically designed levees and openings and ***(2)*** restoring shallow open water to more complex tidal marsh can concurrently create water quality benefits; restore ecosystem values for native vegetation, fish, and wildlife; and enhance recreation and other social values (conceptually depicted in *Exbibit 4*).

DWR evaluated the potential water quality benefits of preliminary alternatives for flooded islands in the western Delta using simulation models. DWR's Delta Simulation Model-1 (Suisun Marsh Version) was used as the primary screening tool to assess potential alternatives. **A** total of 20 alternatives were modeled with each set of results guiding the development of the subsequent alternatives at one or more of Lower Sherman Lake, Three Mile Slough, Big Break, and Franks Tract (DWR 2000).

Preliminary results indicate that reclaiming Franks Tract and Big Break concurrently could result in **salinity** reductions in the south Delta of approximately 30-35% *(Exbibit 5).* Potential alternatives examined included selective levee openings in areas such as Franks Tract and Big Break. Two narrow (approximately 100') openings at Franks Tract and a single narrow opening at Big Break resulted in potential salinity reductions in the south Delta of approximately *20 - 25%.*

DWR then conducted an independent modeling analysis using the DSM2 model and an alternative modeling approach to corroborate salinity trends identified with DSM1. A CALSIM base study was used to provide monthly average Delta inflows and export for the 16-year period from October 1975 through September 1991. The complete Franks Tract reclamation case was

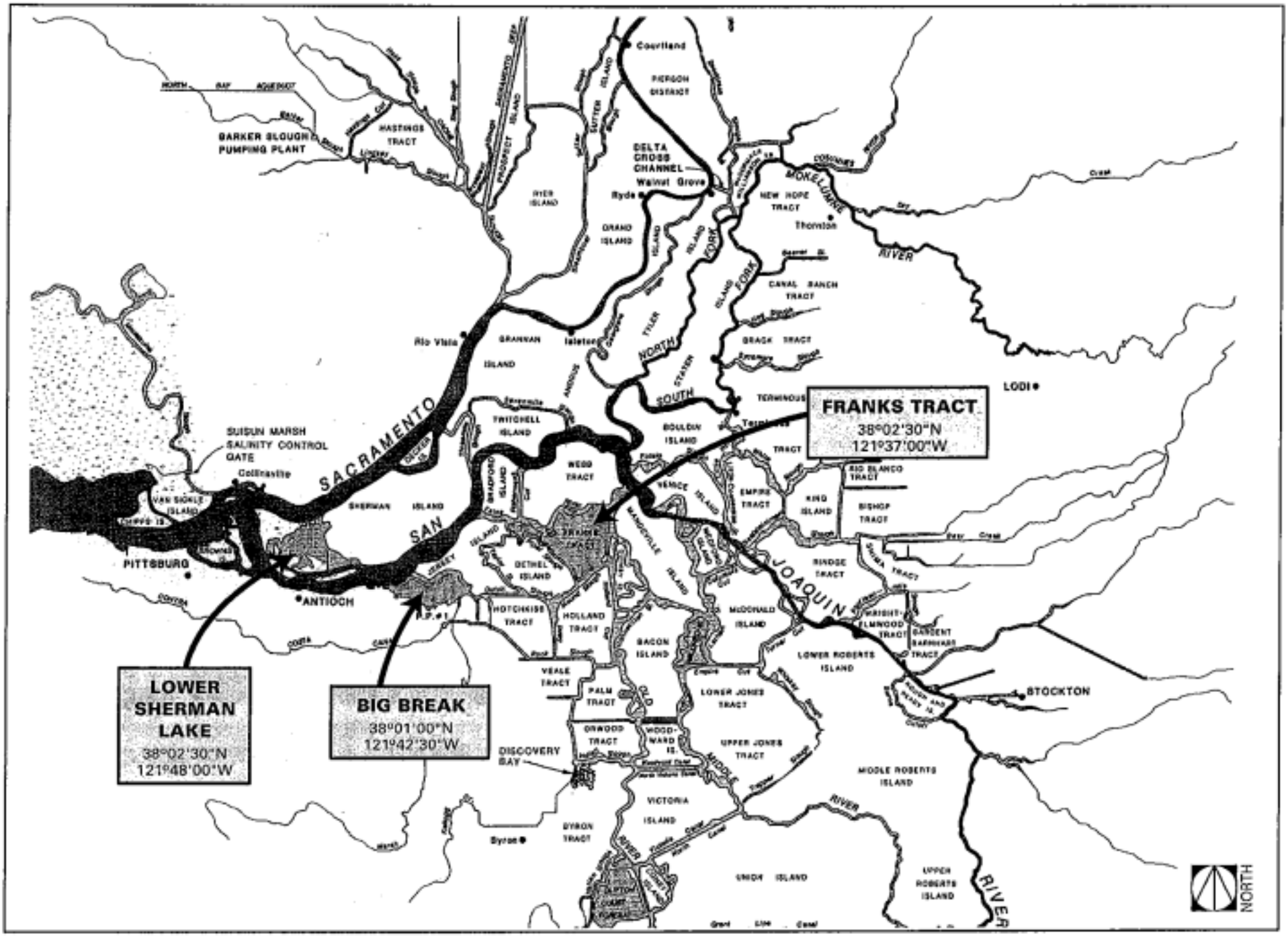


Exhibit 1. Feasibility Study Sites

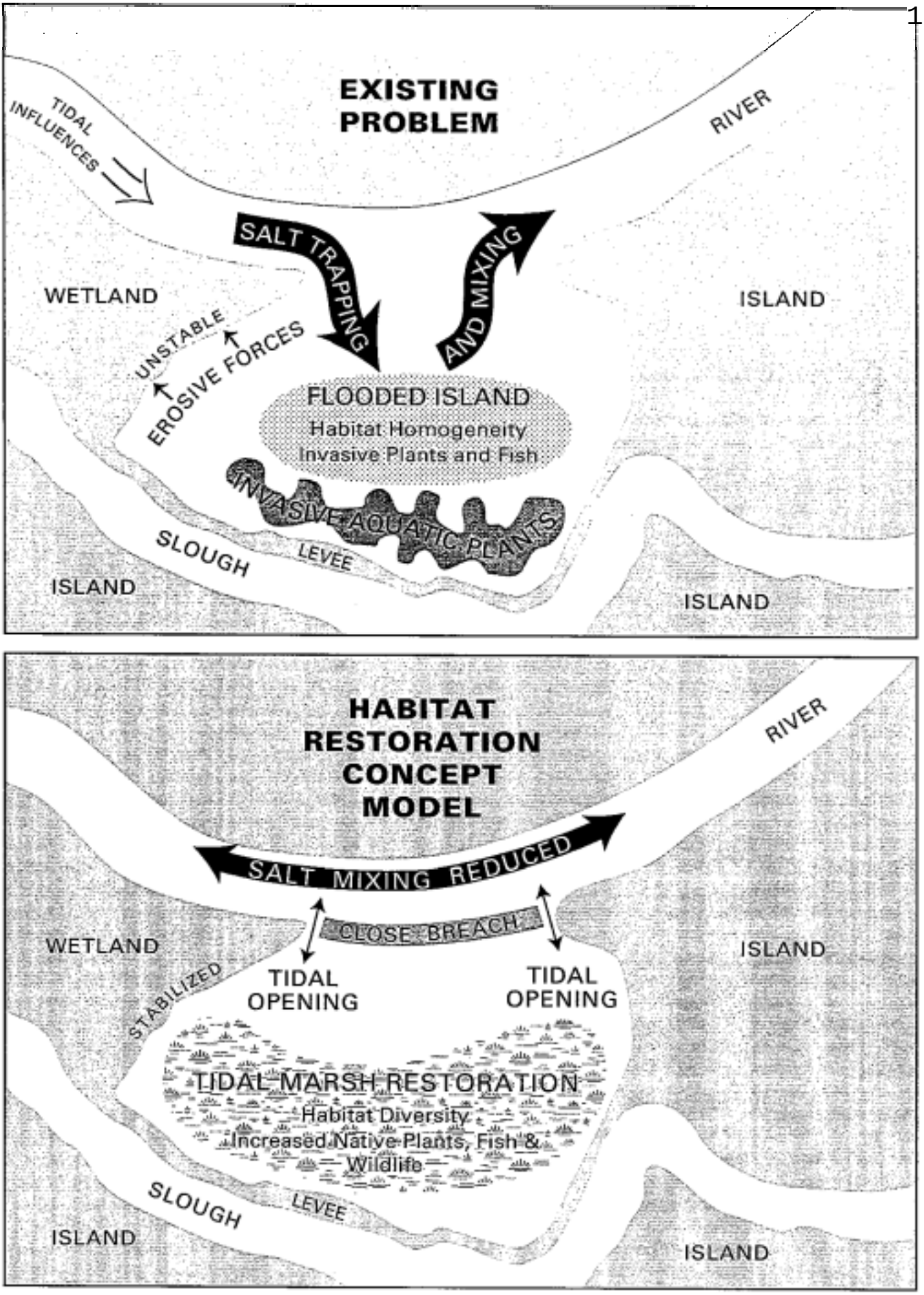


Exhibit 2. Physical Concept Model of Flooded island Feasibility Study

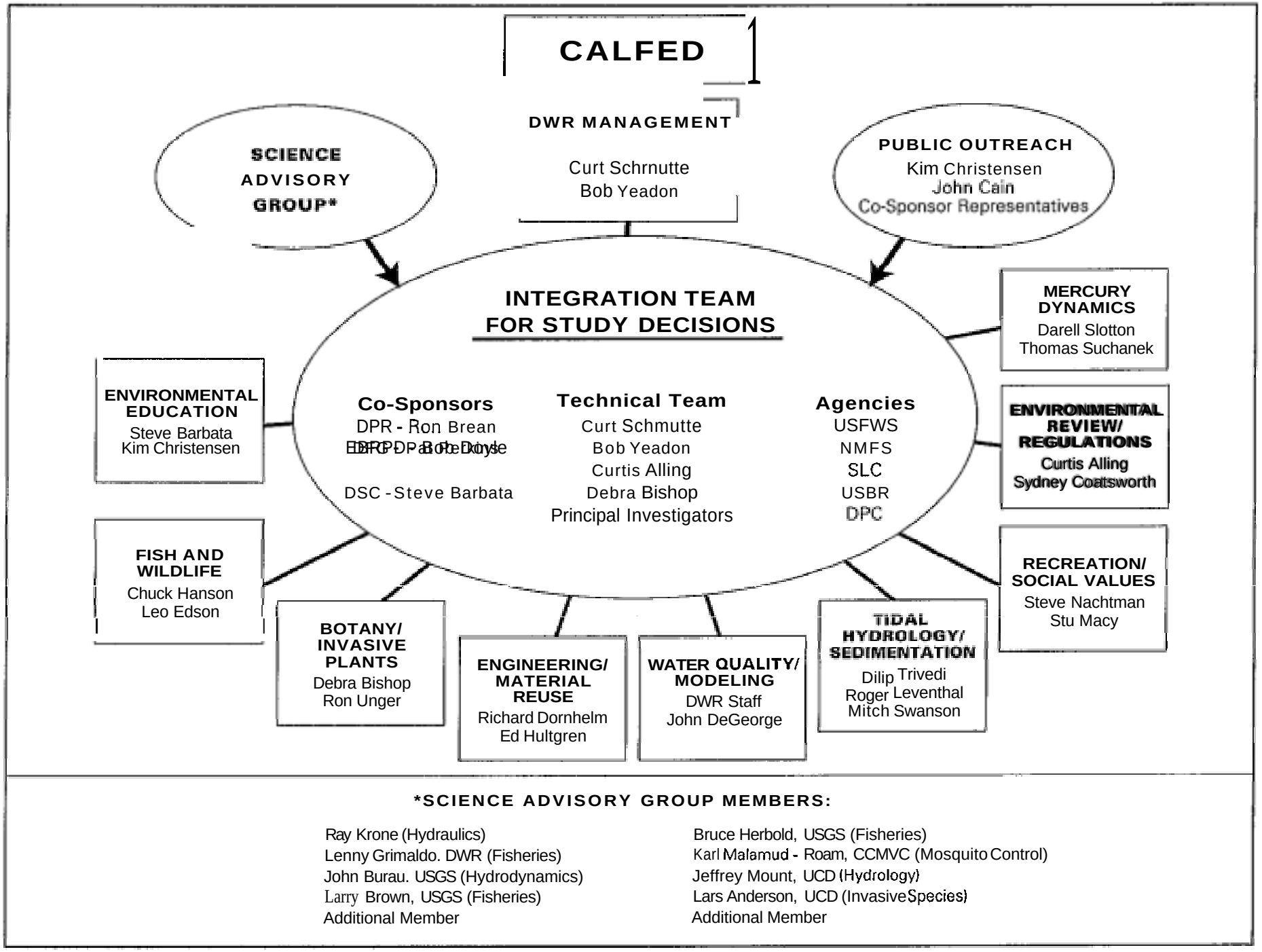


Exhibit 3. Conceptual Model of Study Participant Relationships

Synergistic Benefits of Restoring Flooded Islands

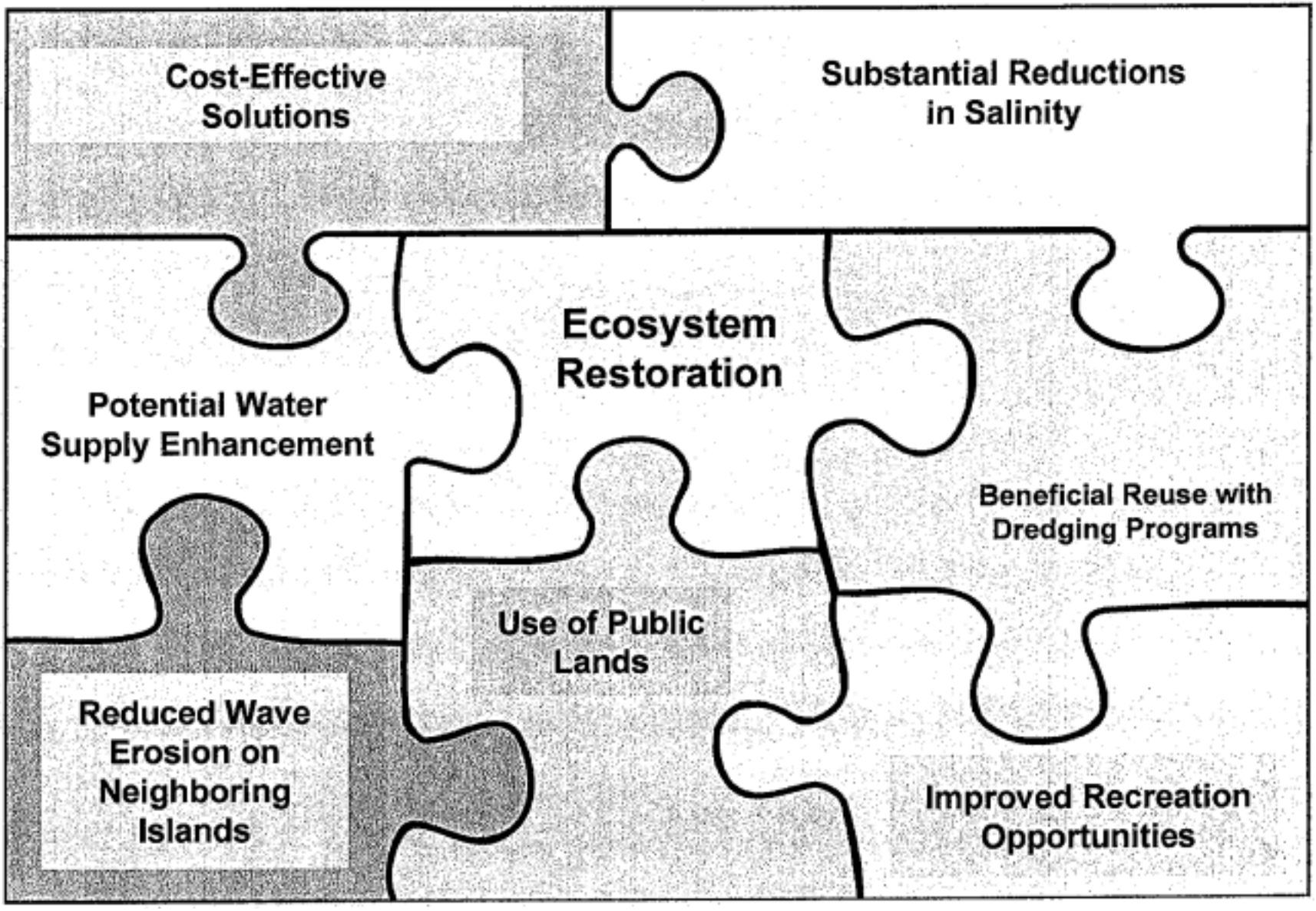


Exhibit 4

Salinity Effects of

Franks Tract Double Breach

(east and west sides, 100 sq. ft. openings)

& Big Break Narrow Breach

Water Year 1992 Peak Tidal Day Average Salinity

(29 July 1992)

Numbers indicate percent change in salinity from simulated existing conditions. Negative numbers indicate a decrease in salinity due to the modeled alternative.

Note that model results are presented for a drought year. Decreased salinity change from existing conditions would be expected during non-drought periods.

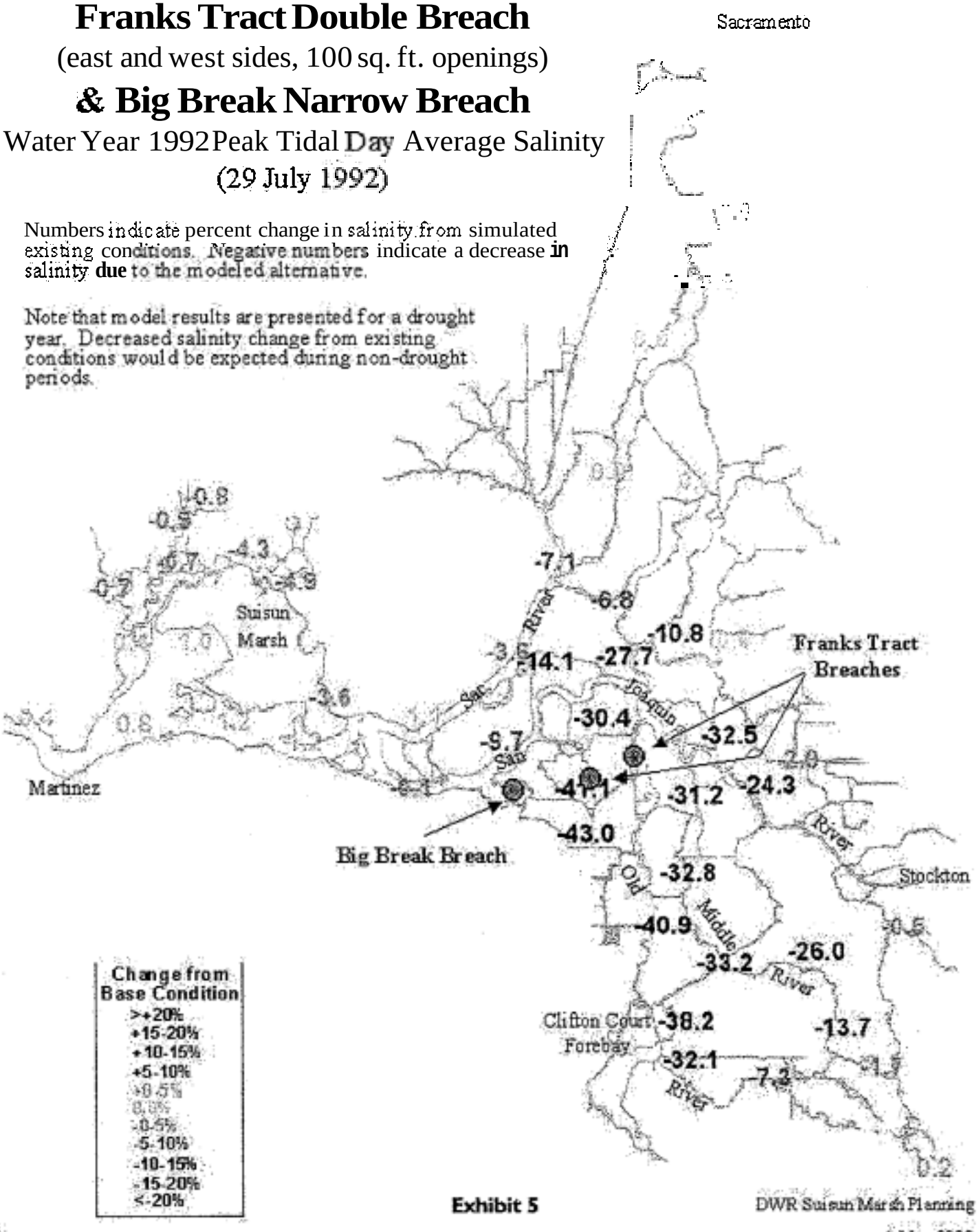


Exhibit 5

DWR Suisun Marsh Planning

1 May 2000

tested for comparison. Salinity reductions in the range of 15-20% were observed for Old River near Rock Slough, and 10-15% near Clifton Court Forebay. These independent DSM2 results substantially corroborate the DSMl results.

Restoration of complex intertidal marsh habitat (dendritic channels) in flooded islands with its more diverse vegetative and hydrologic conditions could improve ecological values for native vegetation, fish, and wildlife, based on prior studies of the relative values of these habitats (Cohen and Carlton 1995; England et al. 1990; Shreffler et al. 1992; Power 1999). Fish species use of and distribution in Lower Sherman Lake, for instance, appears to be most influenced by the presence and density of submerged aquatic vegetation (SAV) (Grimaldo et al., in preparation). Resident native and non-native fish were associated with dense mats of SAV. Migratory fishes were associated with areas where SAV was absent, but along the intertidal edge. Therefore, restoring open water to intertidal habitat should change fish species composition, and the hypothesis is that the change may favor native migratory fish.

d. Adaptive Management. This project proposes to conduct an engineering and environmental feasibility study for restoration of three flooded islands. The environmental feasibility study would contain analyses of potential benefits, including to native vegetation, fish, and wildlife, and the potential for impacts, such as to hunting opportunities. Therefore, adaptive management is not applicable to this early research stage.

Collection of baseline data, design of the evaluation, and definition of pilot projects will include consideration for an adaptive management approach to be included as part of the pilot project based on performance agamst criteria approved by the Integration Team. The criteria will be explained in the feasibility report and could include effectiveness measures for achieving ecosystem restoration and water quality goals, as well as impact-related measures to assess whether trade-offs with other resource or social values occur. Monitoring and adaptively adjusting the design and function of the restoration pilot program can increase the probability of success for full-scale implementation.

e. Educational Objectives. Educational objectives will be achieved primarily through the public outreach described under the "Local Involvement" discussion below. Participation by the Science Advisory Committee members helps disseminate information from this project into the relevant university programs.

2. PROPOSED SCOPE OF WORK

a. Location of the Project. As described in the Problem Statement and shown in *Exhibit 1*, the feasibility study will be conducted at three flooded island sites, Lower Sherman Lake, Big Break, and Franks Tract. The boundaries of the study areas would be the levees or former levee alignments around these three islands. Latitude and longitude of each site are shown in *Exhibit 1*.

b. Approach. The feasibility study work has been divided into 10 major tasks, as described below.

1. Agency Coordination/Public Outreach/Project Management
The DWR Management Team (Curt Schmutte and Bob Yeadon) and subcontractor team coordinators (Curtis Alling, Debra Bishop) will have the primary responsibility for management of the feasibility study. These staff along with representatives of the co-sponsors who own the three study sites (Ron Brean, DPR; Pat Perkins, DFG; and Bob Doyle, EBRPD, Steve Barbata, DSC), representatives of resource and regulatory agencies, and principal investigators from the major technical study areas will form an Integration

Team. The Integration Team will meet on a regular basis to provide overall direction for the study effort and, ultimately, make feasibility decisions. It will also receive and review Technical Memos and Draft Reports from the study for comments and input.

DWR has invited distinguished experts to participate on the Science Advisory Group, which will be a key source of peer review and guidance for the work. The group will meet at key milestones to review data and provide feedback. Committed members of the group are listed in *Exhibit* 3.

The Natural Heritage Institute and EDAW will coordinate the public involvement program. It will include a stakeholder assessment to identify potentially affected constituents. Representatives of key stakeholders (e.g., environmental groups, recreation groups, water purveyors, adjacent landowners, etc.) will be identified for focused discussions of relevant issues on an individual or small group basis. Representatives will be sought who can be available throughout the study schedule, to the extent feasible. One public meeting will be held when the draft feasibility study report is available. A web site strategy for public information is not currently planned, but could be added with a contract amendment in the future (refer to the "Local Involvement" discussion below).

2. Gather Data and Define Baseline

Information compilation will be guided by the study's hypothesis and objectives. The DWR Management Team, co-sponsors, and principal investigators will consult to clarify/expand on the objectives and study priorities, confirm data availability and gaps, and assign priorities for research and surveys at each site (which will vary based on the different histories of investigations).

Co-sponsors have conducted prior research at each flooded island site, so considerable baseline data is available. DWR and DFG have conducted field research about fish and wildlife use and nutrient cycling at Lower Sherman Lake (Grimaldo, pers. comm. 2000). The DSC has conducted resource investigations at Big Break and has embarked on shoreline restoration planning. DSC has mapped vegetation and wetlands in the shoreline marsh area and conducted wildlife surveys (Cain, pers. comm. 2000). DPR and DWR have studied the resources of Franks Tract, including the potential to create small islands (Brean, pers. comm. 2000). The research, surveys, and planning information previously developed for the sites will be assembled and thoroughly reviewed for applicability to the feasibility study.

Baseline information for each site will consist of the following minimum data: aerial photography; bathymetry and shoreline topography; tidal hydrology and internal hydrodynamics; meteorology; water quality; geotechnical and geologic conditions; aquatic, wetland, and terrestrial vegetation; fish and wildlife use; invasive species present; existing uses and social values, including recreational facilities and use; and material availability for beneficial reuse. New data collection is expected to include the following: updated bathymetric surveys; internal circulation data; updated field assessment of vegetation; general wildlife reconnaissance; and updated land use, facilities/infrastructure description. Recreation evaluation will include ways to maintain existing features, such as hunting and boating, and enhancing others, such as bird watching, nature interpretation, and personal watercraft use. Resource management and use plans and policies for each site will be assembled from DFG, DPR, and EBRPD. Focused surveys for threatened and endangered plant, fish, and wildlife species are not planned for this study, because of its short duration; however, consultation with resources agencies and prior surveys will be used to characterize the value of the sites to special-status species.

The potential consequences of the target restoration projects on localized mercury cycling will be addressed in a preliminary study conducted by UC Davis (Darell G. Slotton and Thomas H. Suchanek, principal investigators). Each of the three target restoration regions already contains representative sub-habitats of the types proposed for expansion. Characterization of existing mercury dynamics within each of the primary sub-habitats should provide a useful predictive measure of future mercury dynamics under different spatial coverages. Specifically, the work will include the following elements. (1) Sediment *in-situ* methyl mercury concentrations and methyl:total mercury ratios will be analyzed at 3-5 key sub-habitat types from each of the **3** regions, in replicate. Additional correlative analyses will include moisture percentage, organic percentage, and grain size. (2) The differential potential of the regions and sub-sites to methylate newly deposited inorganic mercury generated from upstream will be investigated with laboratory experiments of methyl mercury production following spike additions of inorganic mercury. **(3)** *Corbicula* clams will be taken (as available) from each of the primary sub-habitats of relevance, for analysis of locally bioaccumulated total and methyl mercury. **(4)** A variety of small fishes will be sampled for general characterization of baseline mercury levels in the three target regions.

This work will provide localized indications of existing mercury methylation and bioaccumulation levels in the various sub-habitats that constitute the **3** target areas, as well as their potential for additional methylation of new mercury. Proposed expansions of particular sub-habitats can then be assessed relative to methyl mercury considerations. Additionally, baseline mercury concentrations in indicator matrices will be established, against which post-restoration levels can be assessed.

3. Develop **and** Calibrate Model

Because DWR has been conducting preliminary modeling using RMA's Delta model, DSM1, and DSM2, model development efforts will be minimized. DWR modeling staff and subcontractors will work together to calibrate the model to the three flooded island sites and current data availability.

In previous modeling for Suisun Marsh, two-dimensional depth-averaged elements were used to represent the open waters of submerged lands, including Sherman Lake, Franks Tract and Big Break. One-dimensional elements were used to represent Delta channels. The model was initially calibrated for September 1998 flows and April-May 1992 salinities. More Delta bathymetry has since been collected. The model will be modified to incorporate the latest bathymetry information and to further refine the flow calibration. The salinity calibration will be extended to encompass the entire 1992 water year. Base condition model runs will be performed for selected analysis years. Much of the renewed calibration and development effort will be accomplished in coordination with other CALFED sponsored projects. The DSM2 model is currently being calibrated with the IEP Project Work Team. Calibration should be complete before the commencement of the project.

The Integration Team will review the model set-up and baseline model runs to provide comments about model refinements, input assumptions, and planned outputs.

4. Review and Confirm Objectives and Priorities

It is critical to review project objectives and priority after some baseline has been gathered to validate or refine the direction of the study. The Integration Team will review the existing baseline data, survey data gathered in Task 2, and the initial baseline model runs for hydrology and water quality. In light of this information, the Integration Team will consider and confirm or modify the objectives for the restoration concepts. Objectives will be refined

and prioritized to direct the development of alternative concepts at each site, based on both the overall water quality/ecosystem goals of the study and the individual site's habitat conditions, existing and planned uses including recreation, and applicable management policies of the co-sponsors.

5. Define Alternative Restoration Concepts

Up to **3** concepts involving levee and tidal marsh restoration will be developed for each of the three flooded islands. The co-sponsor that owns each site will help direct its restoration concept development so that management policies and use plans including recreation are fully considered along with the overall water quality/ecosystem objectives of the study.

The levee restoration concepts will examine different degrees of breach closure and the number and placement of tidal openings. Habitat restoration concepts will examine different approaches for enhancing ecosystem benefits. Examples of factors affecting the availability and quality of shallow-water sub-tidal and intertidal aquatic habitat are shoal areas; shoreline embayments; number and size of dendritic, distributory channels and dead-end sloughs; and emergent aquatic vegetation areas having sufficient interstitial space to provide foraging and cover habitat for juvenile fish and macroinvertebrates while minimizing preferred habitat for non-native/invasive plants and fishes.

The Integration Team will review the definition of alternative concepts and provide initial input about potential features of the concepts for consideration in the evaluation task.

The beneficial reuse of dredged material for levee and habitat restoration associated with this project will be studied. Beneficial reuse offers the potential for many synergistic benefits by providing material for construction in a cost-effective manner that would otherwise be disposed of, while concurrently providing benefits to habitat and wildlife, water quality, water supply, flood protection, and navigation. Moreover, beneficial reuse would meet the CALFED need for material along with the goals of the Long-Term Management Strategy (LTMS) agencies for the reuse of bay dredged material at upland and wetland sites.

6. Model and Evaluate Alternative Concepts

Modeling will be used to evaluate the impacts of the island restoration concepts developed in the proposed work on Delta salinity. Preliminary DSM1 and RMA model results have shown various levels of potential reduction in dry year salinity within the Delta with island restoration. In addition to questions regarding impacts on the global Delta salinity, the numerical models will be applied to evaluate the more local aspects of the restoration concepts such as interior flow velocities, velocities through levee breaches, and interior island sediment accumulation.

The objectives of the modeling analyses are to evaluate:

1) The Delta flow/salinity impacts of the **various** alternative concepts both for individual sites and in combination.
2) The impacts of levee, levee breach and marsh restoration design on internal and neighboring channel flow patterns, sediment accumulation, and salinity mixing.

Changes to the Delta configuration investigated by this project can be expected to affect not only short and long-term average salinity trends, but also modify the variability of salinity on seasonal and tidal time scales. Salinity variability is an important emerging concept as structural modifications for ecosystem restoration are proposed. For example, native biota abundance across trophic levels could be influenced by intra-tidal salinity variability. Aquatic

and tidal zone plants respond to salinity variability on a seasonal time scale. For both aquatic plants and animals, salinity variability is an important physical factor.

In addition to the issues regarding the global Delta salinity and water supply, the numerical model can be applied to evaluate conditions more local (near field) to the island restoration sites. These include:

1) Internal flow patterns, flow velocities through levee breaches, flow through marsh channels, time of inundation for mudflats and marshlands.
2) Potential for sediment trapping and accumulation.

The near field network would be used to examine the hydrodynamics in and around the restored island sites. Flow velocities through breach openings would be evaluated for impacts on navigational and recreational uses. Interior flow velocities and time of mudflat and marshland inundation would be assessed for impacts on habitat benefit. The simulation period would encompass a near-spring tide cycle. A single simulation with typical rimflows would be performed. Additional simulations with other flow conditions could be performed in necessary.

A long-term sediment analysis can be performed to evaluate the preferred alternative concepts. Wet season and *dry* season sediment deposition and scout rates are used to develop a new island bathymetry on a semi-annual basis. The updated bathymetry is used in the sediment simulation for the next season. By this procedure, one may evaluate marsh evolution over multiple years. Wet season deposition will be extrapolated from a representative storm or high flow condition. Wet season flow and suspended sediment loads can be varied to reflect a range of historical wet, normal and *dry* water years.

7. Estimate Costs **of** Alternative Concepts
Preliminary, concept-level cost estimates will be developed for the construction of alternatives that achieve the project objectives, based on the evaluation in Task 6. Cost estimates will be used in the feasibility study as part of the selection of preferred pilot project(s).

8. Refine Concepts and Define Preferred Pilot Program
Based on the modeling, evaluation against objectives, environmental assessment, and cost estimates, alternative concepts will be refined with the objective of defining the most advantageous concept(s) at each site. The Integration Team will review the concept refinements and select a preferred pilot project(s) for the next phase.

9. Prepare Monitoring and Adaptive Management Program
As part of the process *of* defining the preferred pilot project(s), monitoring objectives, criteria, and procedures will be developed. Adaptive management criteria and decision processes will also be defined. These features will be documented in the Draft Feasibility Study Report.

10. Prepare Feasibility Study Report
DWR and the team will prepare an administrative draft Feasibility Study Report for review by the Integration Team, CALFED, and Science Advisory Group. In response to their comments, a public draft Feasibility Study Report will be prepared for distribution to interested members of the public for comments. A final Feasibility Study Report will be prepared with changes in response to public comments.

c. Monitoring and Assessment Phases. As a feasibility study, the proposal does not contain a monitoring and assessment phase. The study report will, however, describe monitoring and assessment approaches for a pilot program as a next phase.

d. Data Handling and Storage. Data for the study will be managed under the direction of the DWR Management Team. Data storage will occur at DWR offices and on DWR servers. A project web site will provide data and report accessibility.

e. Expected Products/Outcomes. The work products prepared for the feasibility study will be as follows. Technical memos will share information with Science Advisory Group and Integration Team for feedback and direction of later tasks. Review Draft Reports will be distributed to the Science Advisory Group and Integration Team for comments and revisions. The Public Draft Feasibility Study Report will be distributed for public review before finalization.

1. Technical Memo 1: Public Outreach, Science Advisory Group, and Integration Team Process
2. Review Draft and Final Environmental Baseline Report
3. Review Draft and Final Model Calibration and Baseline Report
4. Technical Memo 2 Problem and Objectives Statement
5. Review Draft and Final Descriptions of Alternative Concepts Report
6. Technical Memo 3: Monitoring and Adaptive Management Approach for Pilot Project
7. Review Draft, Public Draft, and Final Feasibility Study Report, including *Summary* of Public and Science Advisory Group Input and Pilot Project Recommendations

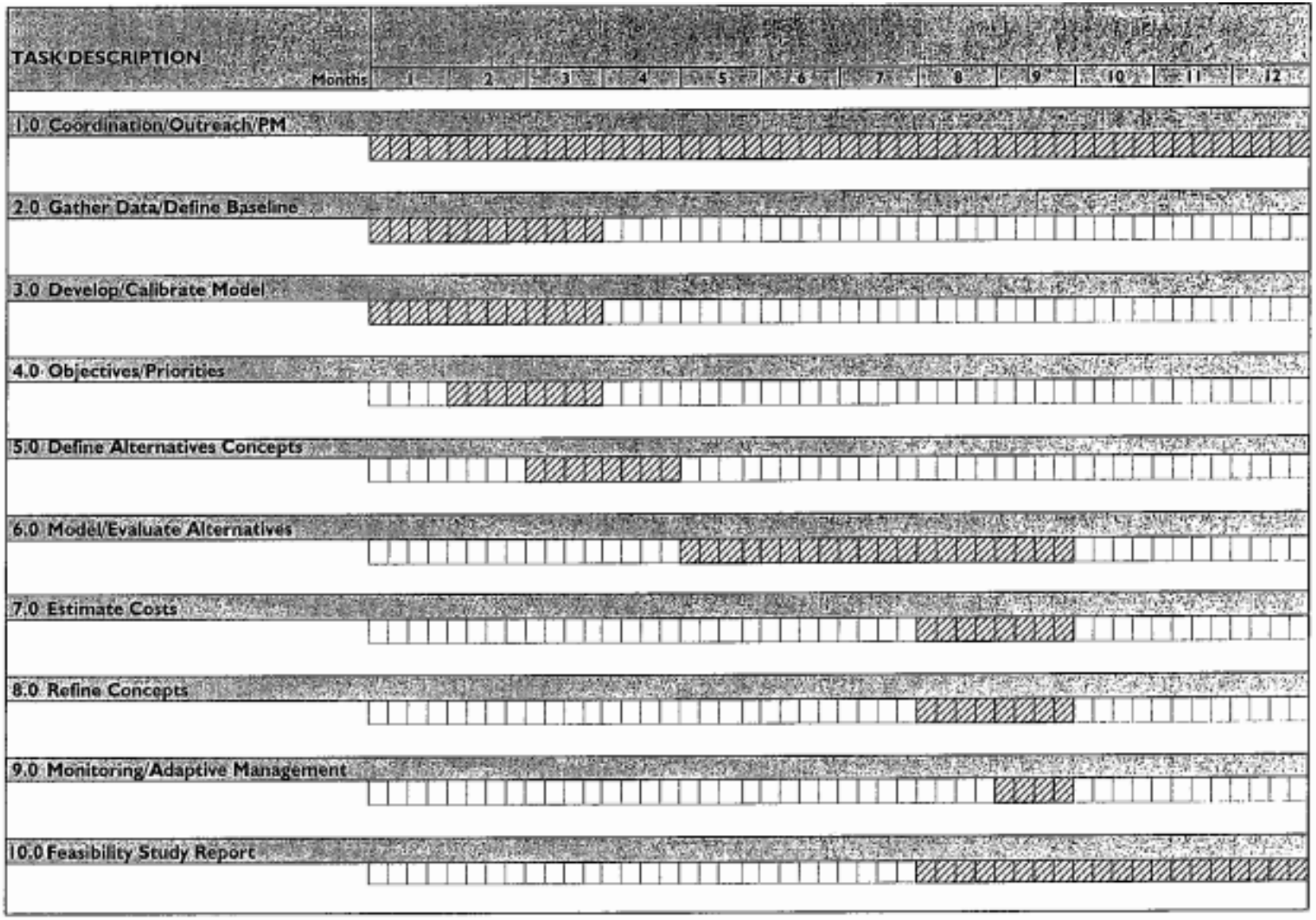
f. Work Schedule. It is anticipated that the proposed feasibility study would require one year from execution of the contract. The start and completion dates for each task are shown in the Feasibility Study Schedule in *Exhibit 6.* The study is a single inseparable work effort, so it does not lend itself to incremental funding. (It is a first phase of a longer program involving a pilot project recommended by the study.) Payments would be based on completion of deliverables for each task.

g. Feasibility. As a feasibility study, the work is not as dependent on external events, such as poor weather, as a pilot project or construction program would be. Schedule uncertainties could relate to changes in direction suggested by CALFED, Integration Team, and Science Advisory Group. To account for this uncertainty, the approach includes interaction with these groups at multiple points as the study proceeds, rather than just document reviews late in the schedule. This should help appropriately manage the overall schedule.

As documented in the environmental checklist, a feasibility study is not a project under CEQA and NEPA, nor are environmental permits required *to* carry out the study.

All study sites are public property, owned by one of the co-sponsors (DPR, DFG, and EBRPD). Access is available to all sites.

EXHIBIT 6 - FEASIBILITY STUDY SCHEDULE



D. APPLICABILITY TO CALFED ERP GOALS AND IMPLEMENTATION PLAN AND CVPIA PRIORITIES

1. ERP Goals and CVPIA Priorities. The application directly supports multiple CALFED goals. Among the ERP Goals, the proposal targets Goal 1 (At-Risk Species), Goal 2 (Ecosystem Processes and Biotic Communities), Goal 4 (Habitats), and Goal 5 (Introduced Species), as described in the CALFED ERPP (CALFED 1999b). It also directly supports the purposes of the CVPIA, as articulated in parts 'a' (protect, restore, enhance Central Valley fish, wildlife, and habitats), 'c' (improve operational flexibility of the CVP), and 'e' (conmbute to the long-term efforts to protect the Delta) of Section 3402 of the law (USBR 1997).

   The feasibility study would define actions that could significantly support the recovery of several at-risk native fish species in the Delta by enhancing habitat necessary for juvenile and adult life stages, consistent with ERP Goal **1.** The restoration of complex tidal wetlands at Lower Sherman Lake, Big Break, and Franks Tract would most likely benefit Sacramento splittail, Delta smelt, and early life stages of the fall-run Chinook salmon. The intertidal sloughs and channels could increase foraging and cover habitat and provide greater zooplankton organic input and productivity. Habitat benefits may also occur for other chinook salmon runs, steelhead, green sturgeon, and white sturgeon.

   Lower Sherman Lake, Big Break, and Franks Tract epitomize the effect that extensive Delta alteration has had on ecosystem processes. Non-native species can dominate the simplified, wanner, open water biotic communities supported by the flooded islands. The feasibility study will examine approaches for rehabilitating these open water areas to increase the amount of intertidal area with its natural tidal fluctuations, cycling of nutrients, and community complexities. Restoration of natural shoreline landforms to protect the tidal marsh would reduce wind-driven wave and watercraft wake erosion, allowing wetlands the opportunity to be self-sustaining, consistent with Goal 2.

   Goal 4 emphasizes the importance of protecting and restoring large expanses of native habitat types. The size of Lower Sherman Lake, Big Break, and Franks Tract creates a very large palette for defining tidal marsh restoration concepts. Also, **all** three sites are owned by and accessible to the public, so the variety of societal values assigned to native habitats would be enhanced by their restoration; including aesthetics, recreation, and ecological services (Dailey 1997).

   Among the invasive species problems being experienced in the Delta, the spread of non-native aquatic plants is one of the most difficult to control. When natural hydrology is disrupted, non-native aquatic plants can become dominant. For example, DWR researchers have observed that Brazilian waterweed has taken over large expanses of the shallow, open water at Lower Sherman Lake (Grimaldo, pers. comm. 2000). Consistent with Goal 5, the proposal would define wetland restoration concepts that re-establish natural channels and tidal flow characteristics, which could reduce the spread of non-native aquatic plants.

   Just as the proposal supports ERP Goals, the CVPIA purposes related to restoring and enhancing Central Valley and Delta habitats are also achieved. What is special about this proposal, however, is the potential to substantially improve flexibility in operating the CVP, concurrently with native habitat restoration, by significantly improving Delta water quality (please refer to systemwide benefits discussed below.)

2. Relationship to Other Ecosystem Restoration Projects. The co-sponsor agencies that own *two* of the study sites are also pursuing other restoration actions. DWR and DPR are restoring small islands within Franks Tract for habitat and recreational values. EBRPD and DSC are exploring wetland restoration along the margins of Big Break. DWR has conducted **two** years of fish use studies at Lower Sherman Lake to better understand nutrient cycling and food web characteristics of shallow subtidal and intertidal habitats. DWR has **also** expended considerable effort in establishing a program to demonstrate the feasibility of beneficially reusing dredged materials. Reuse of clean dredged material represents a unique opportunity to reduce costs for ecological restoration. The work conducted for these programs provides a considerable foundation of knowledge about each site. Later phases of the proposed effort would involve pilot projects for monitoring and adaptive management at one or more of the three sites, followed by full-scale implementation of restoration projects.

3. Reauests for Next-Phase Funding. This is not a request for next-phase funding.

4. Previous Recipients of CALFED or CVPIA Funding. While DWR has received other CALFED and CVPIA funds, none has been previously received for this project.

5. System-wide Ecosystem Benefits. The potential for Delta-wide ecosystem benefits is enormous, especially for system-wide water quality improvements. DWR began to examine more thoroughly the effects of salt trapping in flooded islands on Delta salinity as a by-product of water quality studies related to the Suisun Marsh Preservation Agreement (DWR, 1999). Preliminary modeling has been conducted for this CALFED application by DWR (DWR, 2000). Preliminary results using DWR's Delta Simulation Model-I and corroborated by DSM-2 runs indicate that salinity reductions in the range of 10 to 20% or more may he achieved near Rock Slough and the Clifton Court Forebay by a combination of actions at Franks Tract, Big Break, and Sherman Lake. Such substantial salinity changes present the opportunity for dramatic water quality improvements across large portions of the Delta ecosystem.

   Restoring natural shoreline landforms to close large breaches and control salt trapping in flooded islands alters the setting for rehabilitation of tidal marsh habitat. Innovative approaches for returning flooded islands to intertidal elevations after decades of inundation can be examined when better protected from eroding waves and wakes. The creation of small channels and sloughs can provide a template for important ecosystem functions for native fish species and establish tidal flow patterns that could reduce the success of invasive aquatic plants. This template could be useful in other flooded islands around the Delta, and therefore, provide potentially broader ecosystem benefits.

E. QUALIFICATIONS

Key staff are described below. The study team members are shown in Exhibit 7.

Curt Schmutte (Department of Water Resources) will act as Project Manager. He is managing more than $50 million of Delta ecosystem restoration projects, including the McCormack Williamson Tract 200-acre tidal wetlands Category III, Decker Island 15-acre shaded riverine aquatic habitat Phase I, Sherman Off-shore Berm Island 2.5 acre tidal marsh Category III, Twitchell Island subsidence reversal Category III, Twitchell Island levee setback, Franks Tract 42-acre tidal marsh Category III, Grizzly Slough 35-acre oak woodland, Webb Tract In-Channel Island, and Lower Sacramento River Revegetation Category III projects . He successfully initiated the System Integrity component of the CALFED program and has implemented difficult Delta levee, habitat enhancement, subsidence reversal, beneficial reuse of dredged material, and temporary barrier projects. As the program manager for the $20 million per year Delta Levees Program, he has developed the policies related to the complex issues between levee structures, habitat and endangered species management. Mr. Schmutte chaired the Bay Delta Oversight Council's Levee and Channel Technical Advisory Committee and directs subsidence research in the Delta.

Robert Yeadon (DWR) will be Deputy Project Manager. He currently assists in the management of AB 360 habitat enhancement projects. Mr. Yeadon has over 20 years of experience in environmental and water related projects including 8 years in private industry where he managed many complex projects. He served 13 years at the Regional Water Quality Control Board.

Curtis Alling, AICP, Lead Environmental Planner (EDAW, Inc.) is an environmental planner, recreation planner, and expert in the practice of CEQA and NEPA compliance. He has 23 years of experience, recently directing the Turlock Irrigation District's Tuolumne River Restoration Project environmental program funded by AFRP and CALFED, and the Upper Truckee River and Wetland Restoration Project. He also directed the Sacramento Water Forum EIR process for 5 years.

Debra Bishop, Senior Restoration Ecologist (EDAW), has 10 years of experience evaluating, designing and managing restoration projects throughout California. She has prepared numerous plans for levee setbacks and wetland/riparian restoration projects. Ms. Bishop's management experience includes numerous restoration and planning projects for the DWR, including Decker Island, Twitchell Island Levee Setback, Sherman Island Berm, Kaweah River Flood Control, and numerous projects within the Upper Sacramento River basin.

Mitchell Swanson, Hydrologist/Geomorphologist (Swanson Hydrology & Geomorphology), has over 17 years of experience in restoration and resource management of streams, estuaries and wetlands. His technical expertise includes hydrologic and geomorphic data collection; historical geomorphic and hydrologic analysis; assessing effects of human modification; mapping and surveying in rivers, watersheds, and estuaries; and hydraulic and hydrologic analysis.

Richard Dornhelm, **P.E.,** Lead Civil Engineer (Moffatt & Nichol), has over 30 years experience in the planning and design of projects in the aquatic environment, including numerous wetlands habitat restorations. He has prepared engineering plans to construct habitat and recreation islands in Franks Tract State Recreation Area and designed several wetland restorations around Suisun Bay and Slough.

Dr. Dilip Trivedi, P.E., Lead Coastal Engineer (M&N), has over 12 years experience in the study of coastal projects with emphasis on the analyses of complex wind, wave, hydrodynamic and sediment transport phenomena. Prepared studies to support planning and design of wetlands projects at Franks, Holland, Webb, Bacon, and Bouldin Tracts, as well as Suisun Bay.

John DeGeorge, Ph.D., Lead Water Resources **Modeler** (Resource Management Associates), has been actively involved in the field of hydrodynamic and water quality modeling during the past 11 years through his association with RMA and as a post graduate research engineer at U.C. Davis. He has applied, developed and enhanced RMA's suite of multi-dimensional finite element models for flow, water quality and sediment transport. He served as project manager for RMA's numerical modeling of levee breaches for the CALFED Suisun Marsh Levee Investigation Team. He is project manager and the lead designer for software development in support of the U.S. Army Corps of Engineers' Hydrologic Engineering Center's (HEC) new real-time water control data system.

Donald **Smith,** P.E., Senior Engineer (RMA), is President of RMA. He has 30 years experience in the field of water resources modeling and has been responsible for a wide variety of projects involving the development and application of sophisticated hydrodynamic, thermal, water quality and sediment transport models for estuaries, streams and reservoirs. He has been responsible for numerous two-dimensional model evaluations for flow, water quality and sediment transport in the San Francisco Bay-Delta system. These include outfall studies for the City of San Francisco, the City of Palo Alto and the Novato Sanitary District, and the sediment studies for several existing and proposed Delta marinas. Together with DWR, he was responsible for development of the RMA-DWR link-node model of the Delta, and applied a modified version of the model for the evaluation of the Delta Wetlands island water storage project.

Steve Barbata (Delta Science Center), environmental scientist and Executive Director of The Delta Science Center (DSC), has 25 years of experience in the design, funding and building of cultural institutions including The Lindsay Wildlife Museum, California Academy of Sciences, Oakland Museum, Coyote Point Museum and the Bear Creek Land Trust in Telluride, Colorado. For the DSC, he has built a diverse collaboration by government, industry, agriculture, educators and environmentalists to implement research, restoration and education at Big Break in the western Delta.

John Cain **M.L.A.** (Natural Heritage Institute), a restoration ecologist with the Natural Heritage Institute, has 10 years of experience in aquatic ecosystem restoration and water resources management in California. He currently serves on the management team of two related projects: Twitchell Island subsidence reversal project, and the Yolo Bypass flood plain restoration project.

Dr. Charles Hanson, Senior Fishery Biologist (Hanson Environmental), has more than 25 years of experience in freshwater and marine biological studies. Dr. Hanson has contributed to the study design, analysis, and interpretation of fisheries, stream habitat, and stream flow (hydraulic) data collected in the evaluation of instream flow requirements and potential fishery impacts on salmonid spawning, production, survival, and migration success associated with water project development and operations. Dr. Hanson has conducted site-specific evaluations of the effectiveness of various water diversion screening systems, passage facilities, and operational modifications in reducing organism losses while maintaining operational reliability of the system.

Dr. Darell Slotton (U.C. Davis, Department **of** Environmental Science and Policy), has directed numerous applied aquatic research projects in California and the West, addressing issues of heavy metal contamination, bioaccumulation, management, and potential remediation. His primary focus, since 1985, has been on mercury. He directs a mercury analytical and research laboratory at UC Davis. Dr Slotton's current work includes two CALFED-sponsored projects conducted with Dr. Suchanek a San Francisco Bay-Delta study of mercury bioaccumulation and methylation, and a Cache Creek watershed study investigating chemistry versus mercury bioaccumulation and the importance of different inorganic mercury sources as methylation substrates.

TEAM MATRIX				
Name	**Licenses/Degrees**	**Agency/Company**	**Yrs. Exp.**	**Role**
Curt Schmutte	B.S./P.E.	**DWR**	22	Project Manager
Bob Yeadon	B.S./M.S./P.E.	**DWR**	20	Deputy Project Manager
Lenny Grimaldo	B.S./M.S. (in prog.)	**DWR**	3	Science Advisory Group/Fisheries
Paul Hutton	Ph.D., P.E.	**DWR**	15	Water Quality Modeling
Edward J. Schmit	P.E.	**DWR**	30	Associate Engineer
Chris Enright	B.A./B.S./M.S./P.E.	**DWR**	11	Salinity Model
Callie Harrison	B.S./M.E./EIT	**DWR**	2	Salinity Model
Curtis Alling	B.S./M.S./AICP	**EDAW**	23	Team Director - Environmental Review
Debra Bishop	B.A./M.S.	**EDAW**	10	Team Manager, Concept Planning/Vegetation
Sydney Coatsworth	B.A./M.A.	**EDAW**	13	Environmental Review/Regulatory Assessment
Kim Christensen	B.A./M.S.	**EDAW**	10	Public Outreach/Environmental Education
Ron Unger	B.A./M.S.	**EDAW**	9	Vegetation/Concept Planning/Invasive Plants
Steve Nachtman	B.S./M.S.	**EDAW**	20	Recreation/Land Use/Infrastructure
Janelle Nolan-Summers	B.S.	**EDAW**	8	Permitting/Regulatory Assessment
Leo Edson	B.S.	**EDAW**	12	Wildlife
Cindy Davis	B.S.	**EDAW**	5	Wildlife
Ann King	B.A.	**EDAW**	7	Wildlife
Barry Argo	B.S./M.S.	**EDAW**	3	Monitoring/Maintenance Planning/Analysis
Megan Moriarty	B.A.	**EDAW**	4	GIS
Erika Spencer	B.S.	**EDAW**	3	Website/Land Use/Infrastructure
Chuck Hanson	Ph.D.	**Hanson Environmental**	25	Fisheries
Mitch Swanson	M.S./B.S.	**Swanson Hyd. & Geo.**	17	Hydrology/Geomorphology
Richard Dornhelm	M.S./P.E.	**Moffatt & Nichol**	33	Civil Engineering/Design
Dilip Trivedi	D. Eng./P.E.	**Moffatt & Nichol**	12	Civil Engineering/Design
Richard Rhoades	P.E.	**Moffatt & Nichol**	15	Cost Analysis
Ed Hultgren	G.E.	**Hultgren-Tillis En**	30	Geotechnical
Steve Sullivan	L.S.	**Sea Surveyors**	23	Bathymetry

John DeGeorge	Ph.D.	**RMA**	11	Multi-dimensional Flow/Salinity/Sedimentation Modeling/Visualization
Donald Smith	P.E.	**RMA**	30	Multi-dimensional Flow/Salinity/Sedimentation Modeling
Richard Rachiele	B.S./M.S.	**RMA**	15	Multi-dimensional Flow/Salinity/Sedimentation Modeling
Stacie Grinbergs	B.S./M.S./P.E.	**RMA**	3	Multi-dimensional Flow/Salinity/Sedimentation Modeling
John Cain	M.L.A.	**NHI**	12	Public Outreach
Stuart Siegel	M.S./Ph.D. (in prog.) Reg. Wetland Scientist	**Stuart Siegel Wetlands and Resources**	15	Concept Planning/Tidal Marsh Geomorphology
Roger Leventhal	M.S., P.E.	**Farwest Engineering**	15	Hydrology/Tidal Circulation/Sedimentation
John Volmer	B.S.	**Volmer Consultants**	10	Big Break Vegetation
Sue Orloff	B.S./Reg. Wildlife Biologist	**Ibis Environmental**	20	Big Break Wildlife
Steve Barbata	B.A.	**Delta Science Center**	25	Education/ Public Outreach
Darell Slotton	Ph.D.	**UC Davis**	15	Methyl Mercury
Tom **Suschanek**	Ph.D./B.A./M.S.	**UC Davis**	18	Methyl Mercury
Patricia Perkins	N/A	**CDFG**		Agency Coordination/Co-Sponsor/Integration Team
Bob Doyle	N/A	**EBRPD**		Agency Coordination/Co-Sponsor/Integration Team
Ron Brean	N/A	**DPR**		Agency Coordination/Co-Sponsor/Integration Team

F. COST

Costs have been divided according to the 10 tasks in the scope of work and are presented in Table 1. This table summarizes the work of the applicant and subcontractors. Individual spreadsheet tables have also been prepared for each major subcontractor to back up Table 1. These tables are presented in Appendix A. The names of all known subcontractors are presented in Exhibit 3 and Part E of the proposal.

In Table 1, Task 1 is divided into Task 1A and 1B to segregate project management costs. Task 1A includes all aspects of the Integration Team meetings, Science Advisory Group, public outreach, and agency coordination. Task 1B includes project management tasks only.

Travel is limited to technical team members involved in field studies and to team members and advisory group members attending meetings and workshops. Supplies relate to field survey materials, maps, film, and other expendable items. Expensive equipment does not need to be purchased.

Overhead rates are tailored to the operations of the applicant and each subcontractor, as shown in Appendix A. Overhead is expressed as a percentage of salary-based labor cost. The expressed overhead rates includes general overhead (rent, utilities, general office supplies), administrative overhead (non-project administrative staff and services), insurance, benefits, and when applicable profit. It does not include project specific mileage, per diem, deliveries, supplies, communications, reproduction, and printing, all of which are project direct costs.

The applicant is DWR, through its Central District office. The following itemizes each position, pay rate, and expected time commitment of Central District staff for the one-year study.

Task	Position	Salary/Rate	Hours
1	Principal Engineer	$40/hr	270
1	Senior Engineer	$35/hr	92
5	Associate Engineer	$33.41/hr	70
6	Associate Engineer	$33.41/hr	70
8	Associate Engineer	$33.41/hr	70
10	Associate Engineer	$33.41/hr	70

Cost sharing is provided by the Delta Science Center and other co-sponsors. The Natural Heritage Institute and the Delta Science Center have obtained $310,000 for restoration planning and research at Big Break from the Coastal Conservancy, the Switzer Foundation, and the San Francisco Bay Fund. Approximately $100,000 of these funds will be spent on research and planning in the open water areas of Big Break as a cost share.

TABLE 1

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Year	Task	irect Labo Hours	Sul	ct to Overhead		Exempt from Overhead					Total Cost
			Salary	Benefits	Overhead	Equipment and Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing and Repro	Service Contracts	
Year 1	Task 1A	275	9,827		20,047	100	400	200	200	16,000	$46,774
	Task 1B	800	37,988	5,490	26,704	2,500	1,845	1,400	2,700		$78,627
	Task 2	1,295	63,320	3,900	47,564	8,850	976	475	525	117,000	$242,610
	Task 3	676	27,876	6,157	23,987		96	50			$58,166
	Task 4	305	17,974	1,560	10,090		367	270	10		$30,271
	Task 5	703	38,421	2,922	23,290	700	665	270	520	3,500	$70,288
	Task 6	2,672	124,421	23,826	87,558	100	607	270	20	188,000	$424,802
	Task 7	375	32,118		9,133		192	50			$41,493
	Task 8	662	36,170	2,402	21,935	50	690	370	610	8,750	$70,977
	Task 9	366	19,715	3,120	10,471	175	492	415	150		$34,538
	Task 10	1,207	53,032	4,224	50,186	500	767	70	5,030	5,750	$119,559
Total Project Cost		**9,336**	**$460,86**	**$53,60**	**$330,966**	**$12,97**	**$7,097**	**$3,84**	$9,765	**$339,000**	$1,218,105

Notes:

APPENDIX A

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: DWR Central District Management

Year	Task	Direct Labor Hours	Subject *to* Overhead			Exempt from Overhead					Total Cost
			Salary	Benefits	Overhead (67%)	Equipment and Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing an Repro	Service Contracts	
Year 1	Task 1A									$16,000	$16,000
	Task 1B		$14,034	$3,930	$12,036						*$30,000*
	Task *2*									*$50,000*	*$50,000*
	Task 3										*$0*
	Task 4										*$0*
	Task *5*		$2,339	*$655*	$2,006						*$5,000*
	Task 6		$2,339	*$655*	*$2,006*					$180,000	$185,000
	Task 7										*$0*
	Task a		$2,339	*$655*	*$2,006*						*$5,000*
	Task 9										*$0*
	Task *10*		*$2,339*	*$655*	*$2,006*						$5,000
otal Proiect **Cost**		680	$23,3901	$6,550	$20,0601	$0	$0	$0	$	$246.000	$296,000

otes:
1 DWR-ESO
2 UC Davis
3 DWR Modeling Support

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: Resource Management Associates, Inc.

Year	Task	Direct Labor Hours	Subject to Overhead				Exempt from Overhead				Total Cost
			Salary	Benefits	Overhead (79%)	Equipment and Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing and Repro	Service Contracts	
Year 1	Task 1A										$0
	Task 1B										
	Task 2										$0
	Task 3	500	$19,860	$6,157	$15,6891						$41,706
	Task 4										$0
	Task 5	40	$2,280	$707	$1,801		$248				$5,036
	Task 6	1640	$64,680	$20,051	$51,097						$135,828
	Task 7										$0
	Task 8	40	$2,280	$707	$1,801		$248				$5,036
	Task 9										$0
	Task 10	168	$6,480	$2,005	$5,119				$1,501		$15,108
Total Project Cost		2,404	$95,5801	$29,630	$75,508	$0	$496	$0	$1,501	$0	$202,714
Notes:											

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: **Moffatt &** Nichol Engineers

Year	Task	Direct Labor Hours	Subject *to* Overhead			Exempt from Overhead					Total Cost
			Salary	Benefits	Overhead	Equipment and Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing and Repro	Service Contracts	
Year 1	Task 1A		$0								$(
	Task ■B	96	$11,232				$750				$11,98(
	Task 2	160	$18,720							$67,000	$85,72(
	Task 3	0	$0								$(
	Task 4	40	$4,680				$100				$4,78(
	Task 5	90	$10,530				$150				$10,68(
	Task 6	240	$28,080				$100			$7,000	$35,18(
	Task 7	180	$21,060								$21,06(
	Task 8	80	$9,360				$100			$5,750	$15,21(
	Task 9	24	$2,808								$2,80(
	Task 10	80	$9,360							$5,750	$15,11(
otal Project Cost		990	$115,8301	$0	$0	$0	$1,200	$(	$0	$85,5001	$202,53(

otes:

. Burdened labor rates were used for the salary costs.

. Service contracts include geotechnical subconsultant (Hultgren-Tillis Engineers) and surveying subconsultant (Sea Surveyor).

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: Delta Science Center Big Break Design Team

Year	Task	Direct Labor Hours	Subject to Overhead		Exempt from Overhead						Total Cost
			Salary	Benefits	Overhead (.25)	Equipment & Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing and Repro	Service Contracts	
Year 1	Task 1A										$0
	Task 1B	100	$4,800		$1,200	$2,500	$480	$1,200	$2,500		$12,680
	Task 2	320	$20,496		$5,124	$7,500	$576	$250			$33,946
	Task 3	84	$4,500		$1,125		$96	$50			$5,771
	Task 4	132	$8,010		$2,003		$192	$250			$10,455
	Task 5	200	$14,134		$3,534		$192	$250			$18,110
	Task 6	168	$11,160		$2,790		$192	$250			$14,392
	Task 7	100	$7,500		$1,875		$192	$50			$9,617
	Task 8	228	$14,160		$3,540		$192	$250			$18,142
	Task 9	168	$10,410		$2,603		$192	$350			$13,555
	Task 10	208	$14,160		$3,540		$192	$50			$17,942
Total Project Cost		1,708	$109,330		$27,333	$10,000	$2,496	$2,950	$2,500	$0	$154,609

Notes:

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: Charles H. Hanson

			Subject to Overhead			Exempt from Overhead					
Year	Task	Direct Labor Hours	Salary	Benefits	Overhead	Equipment nd Supplies	Travel Mileage Per Diem	Phone Fax Delivery	Printing and Repro	Service Contracts	Total Cost
Year 1	Task 1A										
	Task 1B	24	$1,320	$1,560		$0	$115	$0	$0	$0	$2,995
	Task 2	60	$3,300	$3,900		$350	$100	$25	$25	$0	$7,700
	Task 3	0	$0	$0		$0	$0	$0	$0	$0	$0
	Task 4	24	$1,320	$1,560		$0	$75	$20	$10	$0	$2,985
	Task 5	24	$1,320	$1,560		$0	$75	$20	$20	$0	$2,995
	Task 6	48	$2,640	$3,120		$0	$115	$20	$20	$0	$5,915
	Task 7	0	$0	$0		$0	$0	$0	$0	$0	$0
	Task 8	16	$880	$1,040		$0	$0	$20	$10	$0	$1,950
	Task 9	48	$2,640	$3,120		$0	$125	$40	$50	$0	$5,975
	Task 10	24	$1,320	$1,560							
otal Project Cost		268	$14,740)	$17,4201	$C	$350 $0 50	$680 $751	$165 $20 165	$301 $165	$0	$33,520
										$0	$3,005
										$0	33,520

otes: Benefits inc e overhead and profit.

Assumes no additional field fishery sampling.

Feasibility Study of Ecosystem and Water Quality Benefits Associated with Franks Tract, Big Break, and Lower Sherman Lake

Proposal Team Member: **EDAW**

Year	Task	Direct Labor Hours	Subject to Overhead: Salary	Subject to Overhead: Benefits	Overhead[1] (2.04)	Exempt from Overhead: Equipment and Supplies	Exempt from Overhead: Travel Mileage Per Diem	Exempt from Overhead: Phone Fax Delivery	Exempt from Overhead: Printing and Repro	Exempt from Overhead: Service Contracts	Total Cost
Year 1	Task 1A	275	$9,827		$20,047	$100	$400	$200	$200		$30,774
	Task 1B	180	$6,602		$13,468		$500	$200	$200		$20,970
	Task 2	755	$20,804		$42,440	$1,000	$300	$200	$500		$65,244
	Task 3	92	$3,516		$7,173						$10,689
	Task 4	109	$3,964		$8,087						$12,051
	Task 5	271	$7,818		$15,949	$700			$500	$3,500	$28,467
	Task 6	506	$15,522		$31,665	$100	$200			$1,000	$48,487
	Task 7	95	$3,558		$7,258						$10,816
	Task 8	220	$7,151		$14,588	$50	$150	$100	$600	$3,000	$25,639
	Task 9	126	$3,857		$7,868	$175	$175	$25	$100		$12,200
	Task 10	657	$19,373		$39,521	$500	$5001		$3,500)		$63,394
otal **Project Cost**		3,286	$101,992	$0	$208,0641	$2,6251	$2,2251	$7251	$5,6001	$7,500	$328,731

lotes: [1] Swanso ydrology

[2] Overhead contains general and administrative, benefits, and profit.

G. LOCAL INVOLVEMENT

Local Government Notification. As required, the Delta Protection Commission and Counties of Sacramento and Contra Costa have been notified in writing.

Public Outreach Plan. Public outreach will be accomplished through a Public Stakeholders Group, public and resource agency meetings. The Public Stakeholders Group will consist of standing representatives invited from affected constituent groups, including environmental (e.g., Deltakeeper), waterfowl/hunting (e.g., Ducks Unlimited), boating, Delta diverters (e.g., CCWD), CVP contractors (e.g., MWD), Delta Management and technical experts (e.g., CALFED), and other interests. The group will provide input to the Integration Team regarding objectives, resource values, alternative concepts, impact issues, and preliminary results. A public and agency workshop will be held for the review of preliminary feasibility results.

A web-based strategy for public involvement is not currently proposed, but could be added by a contract amendment. Neighborhood America's web services are available with its proprietary software at a site called "PublicComment.com." It could be set up as a stand-alone site and/or linked by a button from other sites, such as DWR's or CALFED's. The web site will be advertised as a place for public information. It can be updated regularly by the project team, without the constraint of having to work through a webmaster, as a result of Neighborhood America's specialized software. Visitors to the site can register for alerts to project news, data added to the site, or information releases. Public questions can be posted at key points of the study to seek reaction through replies made directly to the web site by visitors or registered recipients of news alerts. A copy of an example web page is presented as *Exhibit* 8 for a public involvement program developed by EDAW through Neighborhood America for another project with high public involvement.

The Science Advisory Group will also provide input ***to*** the Integration Team. Although not directly oriented to public outreach, the Science Advisory Group provides another avenue for indirect public input because its members originate from universities or agencies outside of the Integration Team.

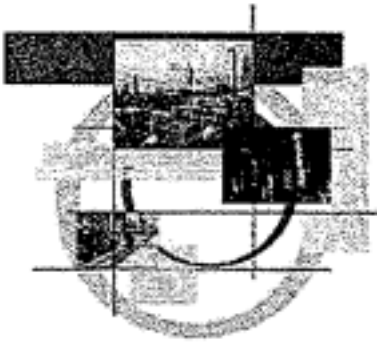
Awareness of the Proposal. The property owners of the three study sites, DFG, DPR, and EBRPD, are co-sponsors of the proposal, so they are involved and supportive of the feasibility study. MWD, as a potentially affected CVP contractor, has been made aware of the feasibility study and is supportive based on the prospect of substantial water quality and ecosystem benefits. DWR staff notified the Delta Protection Commission's Executive Director, who has expressed interest in being a member of the Science Advisory Group.

Third Party Impacts. There are no third party impacts expected from this feasibility study. We anticipate questions from recreation user groups regarding the full projects' effects on navigation, wind surfing, and waterfowl hunting. If this feasibility study and subsequent pilot projects are successful, a full-scale implementation of this project would likely require mitigation for lost bass habitat. A full-scale project could enhance all other recreational opportunities. Recreation interest groups will be notified of public meetings and invited to join the Public Stakeholders Group.

LANCASTER AVENUE CORRIDOR

FORT WORTH

General Information | Public Documents | Public Notices | Coming Soon! | Project Calendar | Public Comment



Welcome to the project site for the Lancaster Avenue Redevelopment project.

This project site is sponsored by the City of Fort Worth and the project consulting team led by EDAW and Gideon Toal.

The purpose of this site is to facilitate public awareness and participation by the citizens of Fort Worth in the planning process.

Contact Us

We value your comments and suggestions. To contact **us,** please choose from the following:

About the Project
Project Goals
Project Team

Suggestion

Ask a Question

Latest News

The Lancaster Avenue Redevelopment Design Team is working with public officials, landowners, the Lancaster Avenue Steering Committee and the Lancaster Avenue Advisory Committee to develop the design concepts for the Lancaster Avenue Corridor.

Check this website often **for** the lastest status on the Lancaster Avenue Corridor Project!

EDAW GideonToal

A service of NeighborhoodAmerica.com

Let us hear your comments!

Exhibit 8 – Example of PublicComment.com Project Website

H. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS

The California Department of Water Resources will comply with all applicable federal standard contracting terms. Federal forms are attached, as required.

Attachment E Federal Contracting Forms

If you would l i e to research the governing circulars or would like copies of them, the OMB website is "http://www.whitehouse.gov/OMB/circulars/index.html,". The Washington, D.C. publications ordering telephone number, (202) 395-7332. The following circulars may be relevant to your proposal.

- Circular A-21, Revised October 27, 1998, "Cost Principles For Educational Institutions"
- Circular A-1 10, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations"
- Circular A-133, Revised June 24, 1997, "Audits of States, Local Governments, and Non-profit Organizations"

Circular A-87, Revised August 29, 1997, "Cost Principles for State, Local and Indian Tribal Governments"
Circular A-102, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments"
Circular A-133, Revised June 24,1997, "Audits of States, Local Governments, and Non-profit Organizations"
Circular A-110, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-profit Organizations"
Circular A-122, Revised May 19, 1998, "Cost Principles for Non-profit Organizations"
Ckcular A-133, Revised June 24, 1997, "Audits of States, Local Governments, and Non-profit Organizations"

- All agreements with organizations other than those indicated above shall be in accordance with the basic principles of OMB Circular A-110, and cost principles shall be in accordance with **Part** 31 of the Federal Acquisition Regulations, Subpart 31.2 entitled, "Contracts with Commercial Organizations."

Standard USBR Financial Assistance Agreement Language.

REGULATIONS AND **GUIDANCE** The regulations at 43 CFR, Part 12, Subparts **A -** F are hereby incorporated by reference as though set forth in full text. The following Office of Management and Budget **(OMB)** Circulars, as applicable, and as implemented by 43 CFR Part 12, are also incorporated by reference and rnade a part of this agreement. Failure of a recipient to comply with any provision may be the basis for withholding payments for proper charges made by the recipient and for termination of support. Copies of OMB Circulars are available on the Internet at http://www.whitehouse.gov/OMB/circulars/index.html. The implementation of the circulars at 43 CFR Part 12 is available at http://www.access.gpo.gov/nara/cfr/index.html.

a. Agreements with colleges and universities shall be in accordance with the following circulars:

Circular A-21, Revised October 27, 1998, "Cost Principles For Educational Institutions"

Circular A-1 10, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations"

Circular A-133, Revised June 24, 1997, "Audits of States, Local Governments, and Non-profit Organizations"

b. Agreements with State and local governments shall be in accordance with the provisions of the following circulars:

Circular A-87, Revised August 29, 1997, "Cost Principles for State, Local and Indian Tribal Governments"

Circular A-102, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments"

Circular A-133, Revised June 24, 1997, "Audits of States, Local Governments, and Non-profit Organizations"

c. Agreements made with non-profit organizations shall be in accordance with the following circulars andprovisions:

Circular A-1 10, Revised August 29, 1997, "Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-profit Organizations"

Circular A-122, Revised May 19, 1998, "Cost Principles for Non-profit Organizations"

Circular A-133, Revised June 24, 1997, "Audits of States, Local Governments, and Non-profit Organizations".

d. All agreements with organizations other than those indicated above shall be in accordance with the basic principles of OMB Circular A-1 10, and cost principles shall be in accordance with Part 31 of the Federal Acquisition Regulations, Subpart 31.2 entitled, "Contracts with Commercial Organizations."

MODIFICATIONS. Any changes to this Agreement shall be made by means of a written modification. Changes dealing with administrative matters (such as in paying office, changes of address, etc.) may be made by a unilateral modification. A modification issued solely for funding a Federal Fiscal Year may also be made unilaterally. Any other changes shall be made by a bilateral modification (signed by both parties). No written statement by any other person than the Grants and Cooperative Agreements Officer, and no oral statement of any person, shall be allowed in any manner or degree to modify or otherwise effect the terms of the Agreement.

ELECTRONIC FUNDS TRANSFER. In accordance with the Debt Collection Improvement Act of 1996, 31 CFR 208, effective January 2, 1999 all Federal payments to recipients must be

made by Electronic Funds Transfer (EFT) unless a waiver has been granted in accordance with 31 CFR 205.4. Upon award of a financial assistance agreement, Reclamation will provide the recipient with further instructions for implementation of EFT payments or a certification form to request exemption from EFT.

ASSURANCES INCORPORATED BY REFERENCE. The provisions of the Assurances executed by the Recipient in connection with this agreement shall apply with full force and effect to this agreement as if fully set forth in these General Provisions. Such Assurances include, but are not limited to, the promise to comply with all applicable Federal statutes and orders relating to nondiscrimination in employment, assistance, andhousing; the Hatch Act; Federal wage and hour laws and regulations and work place safety standards, Federal environmental laws and regulations and the Endangered Species Act; and Federal protection of rivers and waterways and historic and archeological preservation.

COVENANT AGAINST CONTINGENT FEES. The recipient warrants that no person or agency has been employed or retained to solicit or secure this agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide offices established and maintained by the recipient for the purpose of securing agreements or business. For breach or violation of this warranty, the Government shall have the right to annul this agreement without liability or, in its discretion, to deduct from the agreement amount, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

CONTRACTING WITH SMALL AND MINORITY FIRMS, AND WOMEN'S BUSINESS ENTERPRISES. It is a national policy to award a fair share of contracts to small andminority business firms. The Department of the Interior is strongly committedto the objectives of this policy and encourages all recipients of its grants and cooperative agreements to take affirmative steps to ensure such fairness.

a. The grantee andsubgrantee shall take all necessary affirmative steps to assure that minority firms, and women's business enterprises are used when possible.

b. Affirmative steps shall include:

(1) Placing qualified small and minority businesses andwomen's business enterprises on solicitation lists;

(2) Assuring that small andminority businesses, and women'sbusiness enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small andminority business, andwomen's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small andminority business, and women's business enterprises;

(5) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce as appropriate, and

(6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in b.(1) through (5) above.

NOTICE REGARDING BUY AMERICAN **ACT.** In accordance with Section 502 of Pub.L. 105-245 (112 STAT. 1855), as implemented by 43 CFR 12.710, please be advised of the following:

It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available in this Act should be American-made.

RESOLVING DISAGREEMENTS. When enteringinto a cooperative agreement with a recipient, Reclamation commits itself to working with the recipient in a harmonious manner to achieve the objectives of the project successfully. When disagreements arise between the parties, they must be resolved according to the procedures discussed below:

a. Reclamation shall attempt first to resolve disagreements with the recipient through informal discussion among the Grants or Contract Specialist, the Program Officer, and the recipient's Project Director.

b. If the disagreement cannot be resolved through informal discussion between these parties, the Grants Specialist and the Program Officer shall document the nature of the disagreement and bring it to the attention of the Grants Officer.

c. Afterreviewing the facts of the disagreement, aspresentedby the Grants and Program Offices, the Grants Officer will arrange a formal meeting. If agreement still cannot be reached, the parties will collectively decide on any varied approaches which might be used to resolve the disagreement. The parties shall be responsible for their individual expenses related to any approach utilized to resolve the disagreement. If attempts at resolving the disagreement fail, the Regional Director shall make a decision which shall be final and conclusive.

d. Nothing herein shall be construed to delay or limit Reclamation's right to take immediate and appropriate action, as set forth at 43 CFR, Subpart 12.83, in the event of material noncompliance by the recipient, and no attempts at informal resolution shall be necessary.

Any post award issue will be open for resolution in accordance with the above procedures, with the exception of disagreements regarding continuation of the agreement (since either party may terminate the agreement with the specified notice), or other matters specifically addressed by the agreement itself.

TERMINATION OF THE AGREEMENT. Termination of this agreement, either for cause *or* convenience, will be in accordance with the termination provisions of the applicable OMB Circular.

LOBBYING RESTRICTIONS. In accordance with Section 501 of Pub.L. 105-245, Energy and Water Development Appropriation Act, FY 1999, as implementedby **43** CFR Part 12, Subpart A, please be advised of the following:

Recipient shall not use any of the funds from the Energy and Water Development Appropriation Act, FY 2000, directly or indirectly, to influence Congressional action on any legislation or appropriation matterspendingbefore Congress, other than to communicate to Members of Congress as describedin section 1913 of Title 18, United States Code.

APPLICATION **FOR**
FEDERAL ASSISTANCE

OMS Approval NO. 0348.0043

1 N P E OF SUBMISSION: Application ☐ Construction ☐ Non-Construction; Preappiication ☐ Construction ☐ Non-Construction	2 DATE SUBMITTED 5/15/00	Applicant Identifier
	3. DATE RECEIVED BY STATE	State Application Identifier
	4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

5. APPLICANT INFORMATION

Legal Name: CA Department of Water Resources	Organizational Unit: Flood Protection and Geo. Info. Bra ch
Address (give city, county, State, and zip code): 3251 S Street, Sacramento, CA 95816 Sacramento County	Name and telephone number of person to be contacted on matters involving this application(give area code) Curt Schmutte - 916/227-7567
6. EMPLOYER IDENTIFICATIONNUMBER (EIN):	7. N P E OF APPLICANT: (enter appropriate letter in box) A

A. State; B. County; C. Municipal; D. Township; E. Interstate; F. Intermunicipal; G. Special District; H. Independent School Dist.; I. State Controlled Institution of Higher Learning; J. Private University; K. Indian Tribe; L. Individual; M. Profit Organization; N. Other (Specify) _____

8. TYPE OF APPLICATION:

Continuation ☐ Revision ☐

If Revision, enter appropriate letter(s) in box(es) ☐ ☐

A Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other(specify): _____

9. NAME OF FEDERAL AGENCY:

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: ☐☐ – ☐☐☐

TITLE

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:
Feasibility Study of the Ecosystem and Water Quality Benefits Associated with the Restoration of Franks Tract, Big Break, and Lower Sherman Lake

12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.):
Delta

13. PROPOSED PROJECT		14. CONGRESSIONAL DISTRICTS OF:	
Start Date: TBD	Ending Date: 12 mos.	a. Applicant: 11	b. Project: 10 and 11

15. ESTIMATED FUNDING:

a. Federal	$	TBD
b. Applicant	$	–
c. State	$	TBD
d. Local	$	–
e. Other	$	–
f. Program Income	$	–
g. TOTAL	$	1,218,105

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON

DATE _____

b. No, ☒ PROGRAM IS NOT COVERED BY E. O. 12372
☐ OR PROGRAM HAS NOT SEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☐ Yes If "Yes," attach an explanation. ☒ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Type Name of Authorized Representative	b. Title	c. Telephone Number
Curt Schmutte	Chief	916/227-7567
d. Signature of Authorized Representative: Curt Schmutte		e. Date Signed: May 15, 2000

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Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

INSTRUCTIONS FOR THE SF-424

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item:	Entry:
1.	Self-explanatory.
2.	Date application submitted to Federal agency (or State if applicable) and applicant's control number (if applicable).
3.	State use only (if applicable).
4.	If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank.
5.	Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant. and name and telephone number of the person to contact on matters related to this application.
6.	Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.
7.	Enter the appropriate letter in the space provided.
8.	Check appropriate box and enter appropriate letter(s) in the space(s) provided: -- "New" means a new assistance award. -- 'Continuation" means an extension for an additional funding/budget period for a project with a projected completion date. -- "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation.
9.	Name of Federal agency from which assistance is being requested with this application.
10.	Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.
11.	Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects). attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.

Item	Entry:
12.	List only the largest political entities affected (e.g., State, counties, cities).
13.	Self-explanatory.
14.	List the applicant's Congressional District and any District(s) affected by the program or project.
15.	Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate only the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.
16.	Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.
17.	This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
18.	To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)

BUDGET INFORMATION - Non-Construction **Programs**

OMB Approval *No.* 0348.0044

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Calalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (C)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Feasibility Study	TRD	$ TBD	$ TBD	$ TBD	$ TBD	$ 1,218,105.00
2.						
3.						
4.						
5. Totals		$	$	$	$	$ 1,218,105.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
a. Personnel	$ (SEE TABLE 1 AND APPENDIX A)	$	$	$	$
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges *(sum of 6a-6h)*					
j. Indirect Charges					
k. TOTALS *(sum of 6i and 6j)*	$	$	$	$	$
7. Program Income	$	$	$	$	$

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Standard Form 424A (Rev. 7-97)
Prescribed by OMB Circular A-102

Previous Edition Usable

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8.	$	$	$	$
9.				
10.				
11				
12. **TOTAL** *(sum of lines 8-11)*	$	$	$	$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quortor
13. Federal	$ TBD	$ TBD	$ TBD	$ TBD	$ TBD
14. Non-Federal	TBD	TBD	TBD	TBD	TBD
15. TOTAL *(sum of lines 13 and 14)*	$ 1,218,105.00	$ 304,526.00	$ 304,526.00	$ 304,526.00	$ 304,526.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED **FOR** BALANCEOF THE PROJECT

(a)Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c)Second	(d) Third	(e)Fourth
116.	$	$	$	$
17.				
18.				
19.				
20. TOTAL *(sum of lines 16-19)*	$	$	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:	22. Indirect Charges:
23. Remarks:	

INSTRUCTIONS FOR THE SF-424A

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

General Instructions

This form is designed so that application can be made for funds from one or more grant programs. In preparing the budget, adhere to any existing Federal grantor agency guidelines which prescribe how and whether budgeted amounts should be separately shown for different functions or activities within the program. For some programs, grantor agencies may require budgets to be separately shown by function or activity. For other programs, grantor agencies may require a breakdown by function or activity. Sections A, B, C, and D should include budget estimates for the whole project except when applying for assistance which requires Federal authorization in annual or other funding period increments. In the latter case, Sections A, B, C, and D should provide the budget for the first budget period (usually a year) and Section E should present the need for Federal assistance in the subsequent budget periods. All applications should contain a breakdown by the object class categories shown in Lines a-k of Section B.

Section A. Budget Summary Lines 1-4 Columns (a) and (b)

For applications pertaining to a single Federal grant program (Federal Domestic Assistance Catalog number) and not requiring a functional or activity breakdown, enter on Line 1 under Column (a) the Catalog program title and the Catalog number in Column (b).

For applications pertaining to a single program *requiring* budget amounts by multiple functions or activities, enter the name of each activity or function on each line in Column (a), and enter the Catalog number in Column (b). For applications pertaining to multiple programs where none of the programs require a breakdown by function or activity, enter the Catalog program title on each line in Column (e) and the respective Catalog number on each line in Column (b).

For applications pertaining to *multiple* programs where one or more programs require a breakdown by function or activity, prepare a separate sheet for each program requiring the breakdown. Additional sheets should be used when one form does not provide adequate space for all breakdown of data required. However, when more than one sheet is used, the first page should provide the summary totals by programs.

Lines 1-4, Columns (c) through (g)

For new applications, leave Column (c) and (d) blank. For each line entry in Columns (a) end (b), enter in Columns (e), (f), and (g) the appropriate amounts of funds needed to support the project for the first funding period (usually a year).

For continuing grant program applicafions. submit these forms before the end of each funding period as required by the grantor agency. Enter in Columns (c) and (d) the estimated amounts of funds which will remain unobligated at the end of the grant funding period only if the Federal grantor agency instructions provide for this. Otherwise, leave these columns blank. Enter in columns (e) and (f) the amounts of funds needed for the upcoming period. The amount(s) in Column (g) should be the sum of amounts in Columns (e) and (f).

For supplementalgrants and changes to existing grants, do not use Columns (c) and (d). Enter in Column (e) the amount of the increase or decrease of Federal funds and enter in Column (f) the amount of the increase or decrease of non-Federal funds. In Column (g) enter the new total budgeted amount (Federal and non-Federal) which includes the total previous authorized budgeted amounts plus or minus, as appropriate, the amounts shown in Columns (e) and (f). The amount(s) in Column (g) should not equal the sum of amounts in Columns (e) and (f).

Line *5* - Show the totals for ail columns used.

Section B Budget Categories

In the column headings (1) through (4). enter the titles of the same programs, functions, and activities shown on Lines 1-4, Column (a), Section A. When additional sheets are prepared for Section A, provide similar column headings on each sheet. For each program, function or activity, fill in the total requirements for funds (both Federal and non-Federal) by object class categories.

Line 6a-i - Show the totals of Lines 6a to 6h in each column.

Line 6j - Show the amount of indirect cost.

Line 6k - Enter the total of amounts on Lines 6i and 6j. For all applications for new grants and continuation grants the total amount in column (5), Line 6k, should be the same as the total amount shown in Section A, Column (g), Line 5. For supplemental grants and changes to grants, the total amount of the increase or decrease as shown in Columns (1)-(4), Line 6k should be the same as the sum of the amounts in Section A, Columns (e) and (f) on Line *5*.

Line 7 - Enter the estimated amount of income, if any, expected to be generated from this project. Do not add or subtract this amount from the total project amount, Show under the program

narrative statement the nature and source of income. The estimated amount of program income may be considered by the Federal grantor agency in determining tine total amount of the grant.

Section C. Non-Federal Resources

Lines 8-11 Enter amounts of non-Federal resources that will be used on the grant. If in-kind contributions are included, provide a brief explanation on a separate sheet.

Column (a) - Enter the program titles identical to Column (a), Section A. A breakdown by function or activity is not necessary.

Column *(b)*- Enter the contribution to be made by the applicant.

Column *(c)*- Enter the amount of the State's cash and in-kind contribution if the applicant is not a State or State agency. Applicants which are a State or State agencies should leave this column blank.

Column (d) - Enter the amount of cash and in-kind contributions *to* be made from all other sources.

Column **(e)** -Enter totals of Columns (b), (c). and (d).

Line 12- Enter the total for each of Columns (b)-(e). The amount in Column (e) should be equal to the amount on Line 5, Column (f), Section **A.**

Section **D.** Forecasted Cash Needs

Line 13 - Enter the amount of cash needed by quarter from the grantor agency during the first year.

Line **14** - Enter the amount of cash from all other sources needed by quarter during the first year.

Line 15 - Enter the totals of amounts on Lines 13 and 14.

Section **E.** Budget Estimates of Federal Funds Needed for Balance of the Project

Lines **16-19** - Enter in Column (a) the same grant program titles shown in Column (a), Section A. A breakdown by function or activity is not necessary. For new applications and continuation grant applications, enter in the proper columns amounts of Federal funds which will be needed to complete the program or project over the succeeding funding periods (usually in years). This section need not be completed for revisions (amendments, changes, or supplements) to funds for the current year of existing grants.

If more than four lines are needed to list the program titles, submit additional schedules as necessary.

Line *20* - Enter the total for each of the Columns (b)-(e). When additional schedules are prepared for this Section, annotate accordingly and show the overall totals on this line.

Section F. Other Budget Information

Line 21 - Use this space to explain amounts for individual direct object class cost categories that may appear to be out of the ordinary or *to* explain the details as required by the Federal grantor agency.

Line **22** - Enter the type of indirect rate (provisional, predetermined, final or fixed) that will be in effect during the funding period, the estimated amount of the base to which the rate is applied, and the total indirect expense.

Line 23 - Provide any other explanations or comments deemed necessary.

OMB Approval No. 0348-0040

ASSURANCES - NON-CONSTRUCTION PROGRAMS

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers. or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination, These inciude but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973. as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (9 the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing: (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made: and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable. with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

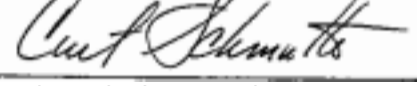
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
	Chief, Flood Protection and Geographic Info. Branch
APPLICANT ORGANIZATION	DATE SUBMITTED
CA Department of Water Resources	May 15, 2000

NOT APPLICABLE

OMB *Approval* No. 0348.004

BUDGET INFORMATION - *Construction* ***Programs***

NOTE: *Certain Federal assistance programs require addiiional computations ;o arrive at Ihe Federalshare of project costs eligible for participation. If such* is *Ihe case. you will be notified.*

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ .00	$ .00	$ .00
2. Land, structures, rights-of-way, appraisals. etc.	$ .00	$ .00	$ .00
3. Relocation expenses and payments	$ .00	$ .00	$ .00
4. Architeclural and engineering fees	$ .00	$ .00	$ .00
5. Other architectural and engineering fees	$ .00	$ .00	$ .00
6. Project inspection fees	$ .00	$ .00	$ .00
7. Site work	$ .00	$ .00	$ .00
8. Demolition and removal	$ .00	$ .00	$ .00
9. Construction	$ .00	$ .00	$ .00
10. Equipment	$ .00	$ .00	$ .00
11. Miscellaneous	$ .00	$ .00	$ .00
12. SUBTOTAL *(sum of lines 1-11)*	$ .00	$ .00	$ .00
13. Contingencies	$ .00	$ .00	$ .00
14. SUBTOTAL	$ .00	$ .00	$ .00
15. Proiect (program) income	$ .00	$ .00	$ .00
16. TOTAL PROJECT COSTS *(subtract #15* from *#14)*	$ .00	$ .00	$ .00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X _____ %	$ .00

INSTRUCTIONS FOR THE SF-424C

This sheet **is** to be used for the following types of applications: (1) 'New" (means a new [previously unfunded] assistance award); (2) "Continuation" (means funding in a succeeding budget period which stemmed from a prior agreement to fund); and (3) "Revised" (means any changes in the Federal Government's financial obligations or contingent liability from an existing obligation). If there is no change in the award amount, there is no need to complete this form. Certain Federal agencies may require only an explanatory letter to effect minor (no cost) changes. If you have questions, please contact the Federal agency,

Column a. - If this is an application for a "New" project, enter the total estimated cost of each of the items listed on lines 1 through 16 (as applicable) under 'COST CLASSIFICATION."

If this application entails a change to an existing award, enter the eligible amounts approved under *the* previous award for the items under "COST CLASSIFICATION."

Column b. - If this is an application for a "New" project, enter that portion of the cost of each item in Column a. which is not allowable for Federal assistance. Contact the Federal agency for assistance in determining the allowability of specific costs.

If this application entails a change to an existing award, enter the adjustment [+ or (-)] to the previously approved costs (from column a) reflected in this application.

Column. -This is the net of lines 1 through 16 in columns "a." and "b.'

Line 1 - Enter estimated amounts needed to cover administrative expenses. **Do** not include costs which are related to the normal functions of government. Allowable legal costs are generally only those associated with the purchases of land which is allowable for Federal participation and certain services in support of construction of the project.

Line 2 - Enter estimated site and right($-of-way acquisition costs (this includes purchase, lease, and/or easements).

Line 3 - Enter estimated costs related to relocation advisory assistance, replacement housing, relocation payments to displaced persons and businesses, etc.

Line **4** - Enter estimated basic engineering fees related to construction (this includes start-up services and preparation of project performance work plan).

Line *5* - Enter estimated engineering costs, such as surveys, tests, soil borings. etc.

Line 6 - Enter estimated engineering inspection costs.

Line 7 - Enter estimated costs of site preparation and restoration which are not included in the basic construction contract.

Line 9 - Enter estimated cost of the construction contract.

Line 10 - Enter estimated cost of office, shop, laboratory, safety equipment, etc. to be used at the facility, if such costs are not included in the construction contract.

Line 11 - Enter estimated miscellaneous costs.

Line 12 -Total of items 1 through 11.

Line 13 - Enter estimated contingency costs. (Consult the Federal agency for the percentage of the estimated construction cost to use.)

Line 14 - Enter the total of lines 12 and 13.

Line 15 - Enter estimated program income to be earned during the grant period, e.g., salvaged materials, etc.

Line **16** -Subtract line 15 from line 14.

Line 17 - This block is for the computation of the Federal share. Multiply the total allowable project costs from line 16, column "c." by the Federal percentage share (this may be up to 100 percent; consult Federal agency for Federal percentage share) and enter the product on line 17.

OMB **Approval** No. ***0348-0042***

ASSURANCES - CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE **SPONSORING** AGENCY.

NOTE Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and wili establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal interest in the title of real property in accordance with awarding agency directives and will include a covenant in the title of real property aquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.

4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications,

5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State.

6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

10. Will comply with ail Federal statutes relating to non-. discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683. and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975. as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) underwhich application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

NOT **APPLICABLE**

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of **1970** (P.L. **91-646)** which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act **(5** U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in par: with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act **(40** U.S.C. §§276a to 276a-7), the Copeland Act **(40 U.S.C.** §276c and **18** U.S.C. §874), and the Contract Work Hours and Safety Standards Act **(40** U.S.C. §§327-**333)** regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of **1973** (P.L. **93-234)** which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of **1969** (P.L. 91-**190)** and Executive Order (EO) **11514;** (b) notification of violating facilities pursuant to EO **11738;** (c) protection of wetlands pursuant to EO **11990;** (d) evaluation of flood hazards in floodplains in accordance with EO **11988;** (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act ***of*** 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of **1955,** as amended **(42** U.S.C. **557401** et seq.); (g) protection ***of*** underground sources of drinking water under the Safe Drinking Water Act of **1974,** as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of **1973,** as amended (P.L. **93-205).**

16. Will comply with the Wild and Scenic Rivers Act of **1968** (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuiing compliance with Section **106** of the National Historic Presewation Act of **1966,** as amended (16 U.S.C. §470), EO **11593** (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of **1974** (16 U.S.C. §§469a-1 et seq.).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of **1996** and OMB Circular No. **A-133,** "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
APPLICANT ORGANIZATION	DATE SUBMITTED

U.S. Department **of** the Interior

Certifications Regarding Debarment, Suspension and Other Responsibility Matters, Drug-Free Workplace Requirements and Lobbying

Persona signing this form should refer to the regulations referenced below for complete instructions:

Certification Regarding Debarment. Suspension, and Other Responsibility Matters - Primary Covered Transactions - **The prospective primary participant** further agrees by submitting this **proposal** that it will include the **clause** titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction? provided by the department or agency entering into this **covered transaction,** without modification, in all lower tier **covered transactions and in all solicitations for lower tier covered transactions.** See below for language to be used; use this form for certification and sign: or use Department of the Interior Form 1954 (DI-1954). (See Appendix A of **Subpart** D of 43 CFR Part 12.)

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lowerlier Covered Transactions - (See Appendix **B** of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requirements - Alternate I. (Grantees Other Than Individuals) and Alternate II. (Grantees Who are Individuals) -(See Appendix C of Subpart D of 43 CFR Part 12.)

Signature on this form provides for compliance with certification requirements under 43 CFR Parts 12 and 18. The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of the Interior determines to award the covered transaction, grant, cooperative agreement or loan.

PARTA: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

CHECK — IF *THIS CERTIFICATION* IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE.

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency:

(b) Have not within a three-year period preceding this proposai been convicted of or had **a** civil judgment rendered against them for commission of fraud or **a** criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property:

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any *of* the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification. such prospective participant shall attach an explanation to this proposal.

PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

CHECK __ *IF THIS CERTIFICATION* IS FOR A LOWER *TIER* COVERED TRANSACTION AND IS APPLICABLE.

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred. suspended, proposed for debarment. declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

DI-2010
March 1995
(This form consolidates DI-1953. DI-1954, DI-1955. DI-I956 and DI-1963)

PART C Certification Regarding Drug-Free Workplace Requirements

CHECK — IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOJAN INDIVIDUAL.

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about--
(1) The dangers of drug abuse in the workplace;
(2) The grantee's policy of maintaining a drug-free workplace;
(3) Any available drug counseling, rehabilitation, and employee assistance programs; and
(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace:

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will –
(1) Abide by the terms of the statement: and
(2) Notify the employer in writing of *tis* or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect *to* any employee who is so convicted --
(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973. as amended; or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health. law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain *a* drug-free workplace through implementation of paragraphs (a), (b). *(c).* (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

3251 S Street
Sacramento, CA

Check __ if there are workplaces on file that are not identified here.

PART D: Certification Regarding Drug-Free Workplace Requirements

CHECK __ IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL.

Alternate II. (Grantees Who Are Individuals)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution. dispensing, Possession. or use of a controlled substance in conducting any activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

PARTE: Certification Regarding Lobbying
Certification for Contracts, Grants, Loans, and Cooperative Agreements

CHECK — *IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND THE AMOUNT EXCEEDS $100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT, SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMEW.*

CHECK — *IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL LOAN EXCEEDING THE AMOUNT OF $150,000, OR A SUBGRANT OR SUBCONTRACT EXCEEDING $100,000, UNDER THE LOAN.*

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undesigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension. continuation, renewal. amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL. "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title **31,** U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

As the authorized certifying official, **I** hereby certify that the above specified certifications are true

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 

TYPED NAME AND TITLE Curt Schmutte, Chief, **Flood Protection** & Geo. Info. Branch

DATE May 15, 2000

DI-2010

March 1995

(This form **consolidates** DI-1953, DI-1954,

DI-1955, DI-1956 and DI-1963)

I. LITERATURE CITED

Brean, R. 2000. Personal Communication.

Cain, J. 2000. Personal Communication,

CALFED. 1999b. Ecosystem Restoration Program Plan, Strategic Plan for Ecosystem Restoration. Appendix to the CALFED Bay-Delta Program Draft Programmatic Environmental Impact Statement/Report.

Cardinale, B. J., Brady, V. J., and T. M. Burton. 1998. Changes in the abundance and diversity of coastal wetland fauna from the open water/macrophyte edge towards shore. Wetlands Ecology and Management 6:59-68.

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J. THRESHOLD REQUIREMENTS

All threshold documents are completed and attached. Letters of Notification have been sent to the Delta Protection Commission, Contra Costa County, and Sacramento County. Copies are provided.

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?

   _____ YES ✓ NO

2. If you answered yes to **#1,** identify the lead governmental agency for CEQA/NEPA compliance.

   Not Applicable

3. If you answered no to #1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.

   The application is for a feasibility study, involving research, modeling, concept planning, evaluation, and baseline monitoring. Neither a "project" under CEQA nor a "major federal action" under NEPA would occur as a result of the approval of funds for this application.

4. If CEQA/NEPA compliance is required, describe how the project will comply with either or both of these laws. Describe where the project is in the compliance process and the expected date of completion.

   Not Applicable.

5. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

   ✓ YES _____ NO

If yes, the applicant must attach written permission for access from the relevant property owner(S). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field project for which specific field locations have not been identified will be required to provide access needs and permission for access with 30 days of notification of approval.

The study locations are all publicly owned by the California Department of Fish and Game (Lower Sherman Lake), East Bay Regional Park District (Big Break), and California Department of Parks and Recreation (Franks Tract). These agencies are co-sponsors with the California Department of Water Resources and by their participation have granted access.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

LOCAL

Conditional use permit		
Variance		
Subdivision Map Act approval		
Grading permit		
General plan amendment		
Specific plan approval		
Rezone		
Williamson Act Contract cancellation		
Other _____ (please specify)		
None required	✓*	

*** As a feasibility study, local, state, and federal project approvals are not needed. (Discretionary approvals for any physical projects recommended as a result of the feasibility study, will be defined in the study.)**

STATE

CESA Compliance		(CDFG)
Streambed alteration permit		(CDFG)
CWA § 401 certification		(RWQCB)
Coastal development permit		(Coastal Commission/BCDC
Reclamation Board approval		
Notification		DPC, BCDC
Other _____ (please specify)		
None required	✓*	

FEDERAL

ESA Consultation		(USFWS)
Rivers & Harbors Act permit		(ACOE)
CWA § 404 permit		(ACOE)
Other _____ (please specify)		
None required	✓*	

DPC = Delta Protection Commission
CWA = Clean Water Act
CESA = California Endangered Species Act
USFWS = U.S. Fish & Wildlife Service
ACOE = U.S. Army Corps of Engineers

ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC = Bay Conservations and Development comm.

Land Use Checklist

All applicants must fill out this Land Use checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Do the actions in the proposal involve physical changes to the land (i.e., grading, planting vegetation, or breeching levees of restrictions in land use (i.e., construction easement or placement of land in a wildlife refuge)?

YES	NO
	✓ **NO**

2. If NO to #1, explain what type of actions are involved in the proposal (i.e., research only, planning only).

   As a feasibility study, it involves only research, modeling, concept planning, evaluation, and baseline monitoring.

3. If YES to #1, what is the proposed land use change or restriction under the proposal?

   Not Applicable.

4. If YES to #1, is the land currently under a Williamson Act contract?

YES	**Not Applicable**	NO

5. If YES to #1, answer the following:

Current land use	**Not Applicable.**
Current zoning	**Not Applicable.**
Current general plan designation	**Not Applicable.**

6. If YES to #1, is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland on the Department of Conservation Important Farmland Maps? **Not Applicable.**

YES	NO	DON'T KNOW	**Not Applicable.**

7. If YES to #1, how many acres of land will be subject to physical change or land use restrictions under the proposal?

   Not Applicable.

8. If YES to #1, is the property currently being commercially farmed or grazed?

_____ Not **Applicable.** _____
YES NO

9. If YES to #8, what are the number of employees/acre _____
the total number of employees _____
(Not **Applicable)**

10. Will the applicant acquire any interest in land under the proposal (fee title or a conservation easement)?

_____ ✓
YES NO

11. What entity/organization will hold the interest? Not **Applicable**

12. **If** YES to #10, answer the following: Not **Applicable.**

Total number of acres to be acquired under proposal _____
Number of acres to be acquired in fee _____
Number of acres to be subject to conservation easement _____

13. For all proposals involving physical changes to the land or restriction in land use, describe what entity or organization will:

manage the property Not **Applicable**
provide operations and maintenance services Not **Applicable**
conduct monitoring Not **Applicable**

14. For land acquisitions (fee title or easements), will existing water rights also be acquired?

_____ Not **Applicable.** _____
YES NO

15. Does the applicant propose any modifications to the water right or change in the delivery of the water?

_____ ✓
YES NO

16. If YES to #15, describe Not Applicable

STATE OF CALIFORNIA - THE RESOURCES AGENCY
GRAY DAVIS, *Governor*

DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
3251 S STREET
SACRAMENTO, CA 95816-7017

May 15,2000

Delta Protection Commission
14215 River Road
Post Office Box 530
Walnut Grove, California 95690

Subject: Letter of Notification - CALFED Proposal Feasibility Study of the Ecosystem and Water Quality Benefits Associated with the Restoration of Frank's Tract, Big Break. and Lower Sherman Lake

This letter is to provide notification that the California Department of Water Resources has submitted the enclosed proposal to the CALFED Bay-Delta Program for funding of the Feasibility Study of the Ecosystem and Water Quality Benefits Associated with the Restoration of Frank's Tract, Big Break, and Lower Sherman Lake.

As directed by CALFED proposal requirements, attached please find one complete copy of the proposal for your review and information.

If you have any questions regarding this proposal please call me at (916) 227-7567.

Sincerely,

Curt Schmutte, Chief
Flood Protection and Geographic
Information Branch

Enclosure

STATE OF CALIFORNIA - THE RESOURCES AGENCY
GRAY DAVIS, *Governor*

DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
3251 S STREET
SACRAMENTO, CA 95816-7017

May 15,2000

County of Contra Costa
Planning Department
651 Pine Street, North Wing
Martinez, California 94553

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Enclosure

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GRAY DAVIS, *Governor*

DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
3251 S STREET
SACRAMENTO, CA 95816-7017

May 15, 2000

County of Sacramento
Planning Department
827 7th Street, Second Floor
Sacramento, California 95812

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Enclosure